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INTERNATIONAL HARVESTER

TRADE MARK

CATALOGUES

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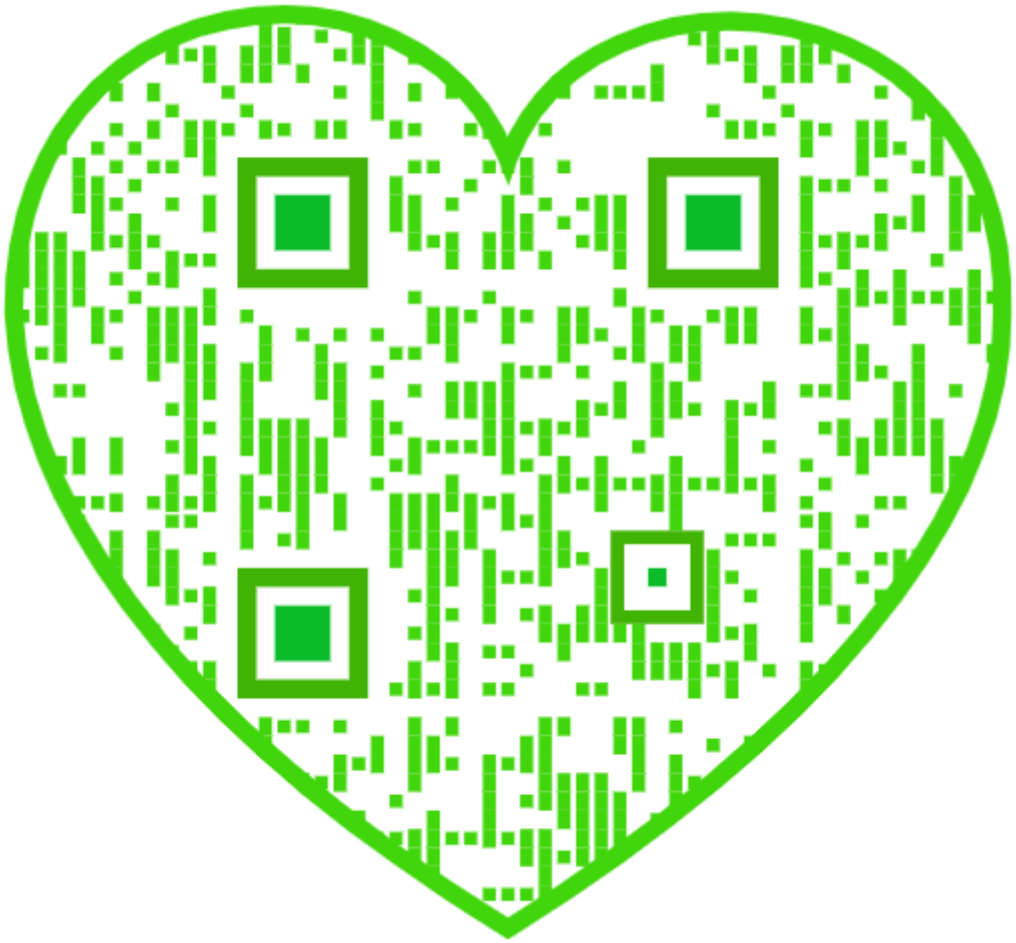
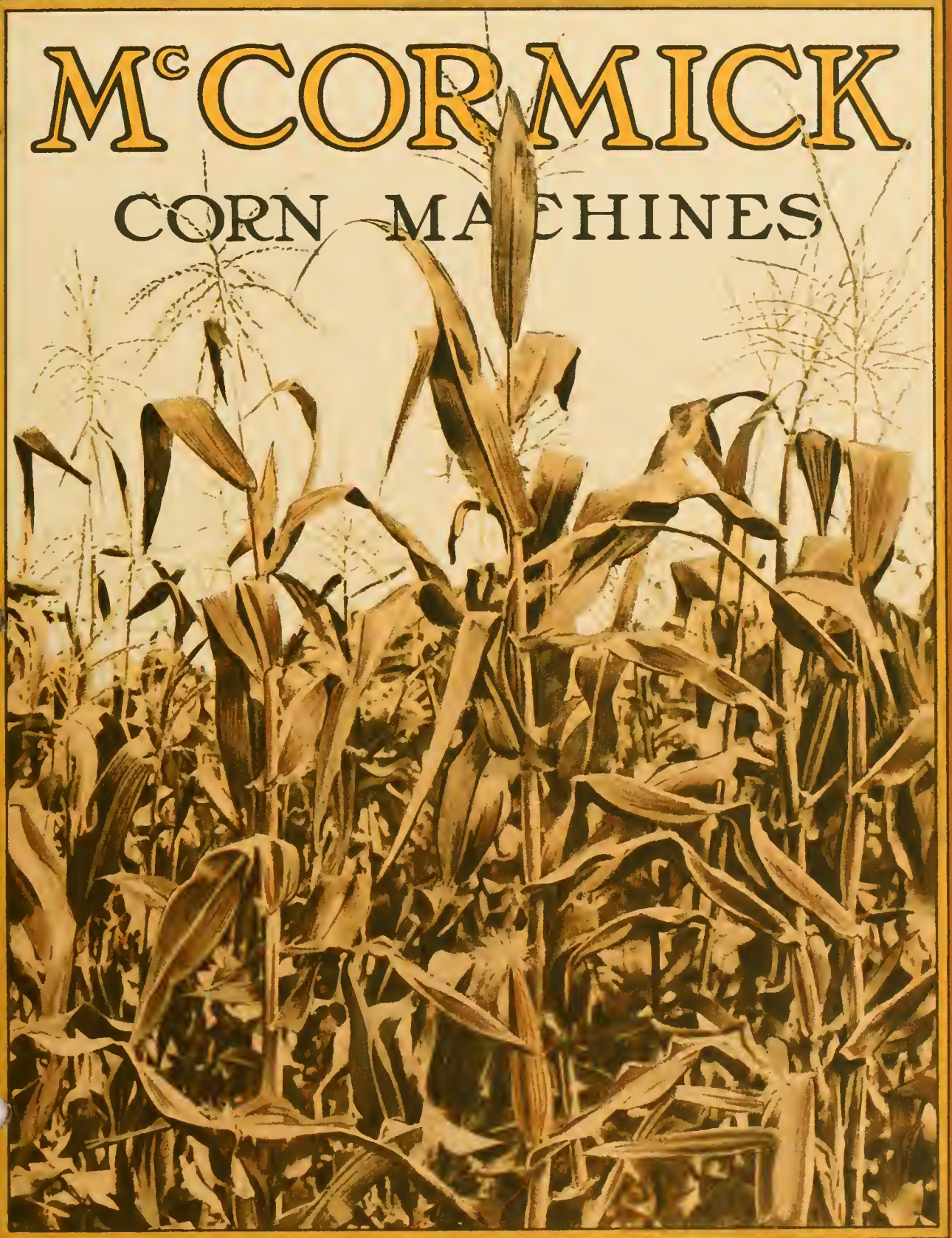
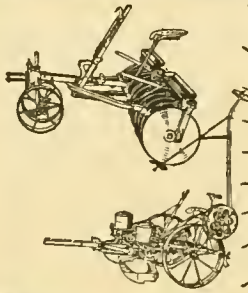


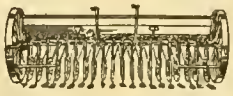
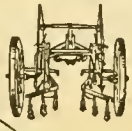
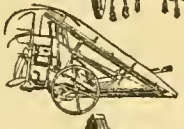
MAGILL-WEINSHEIMER CO. CHICAGO

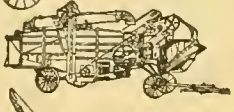
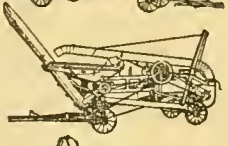
McCORMICK

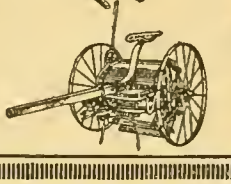
CORN MACHINES

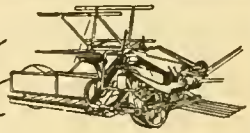


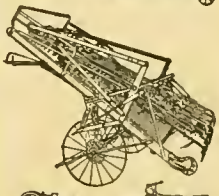


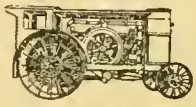
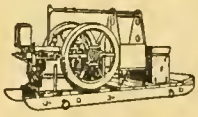




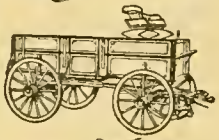
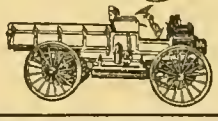









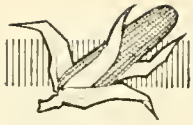



McCORMICK

CORN MACHINES

INTERNATIONAL HARVESTER COMPANY OF AMERICA
INCORPORATED
CHICAGO U.S.A.

McCORMICK



Save All Your Corn and Get Its Full Feeding Value

In comparing the cost of harvesting the corn crop by hand with the more modern methods, the corn grower quite frequently figures into his expense only the amount he actually pays out for hired help. The loss sustained through waste is rarely considered or taken into account.

From the standpoint of economy in harvesting the corn crop, every corn grower can afford modern corn harvesting machines. From the standpoint of actual feeding value of the stalks, the corn grower cannot afford to be without these machines. The corn binder and the husker and shredder together absolutely eliminate three sources of waste which are unavoidable when following the old-fashioned method of husking the corn by hand.

When gathering corn by hand, hired help often leave their wages in the field in corn that they failed to gather for various reasons. They are interested in gathering the largest possible amount each day, and as a rule are not particular about gathering either the small or the fallen ears, or in picking up the ears that miss the wagon. The use of a corn binder and a husker and shredder precludes waste of this character.

Another large loss sustained by leaving the cornstalks standing in the field is the waste of valuable organic soil food. The vegetation that has grown from the soil should be returned to the soil in so far as possible. The soil is hungry for it and needs it. A large percentage of the benefit that the soil might receive from the cornstalks is lost through a process of weathering, never to be regained, when the stalks are left standing in the field. The poor residue that is left in the spring is of little value as compared with the value of barnyard manure that results from feeding live stock with the shredded stover. Thus the value of the corn binder and the husker and shredder from the standpoint of soil improvement is readily seen.

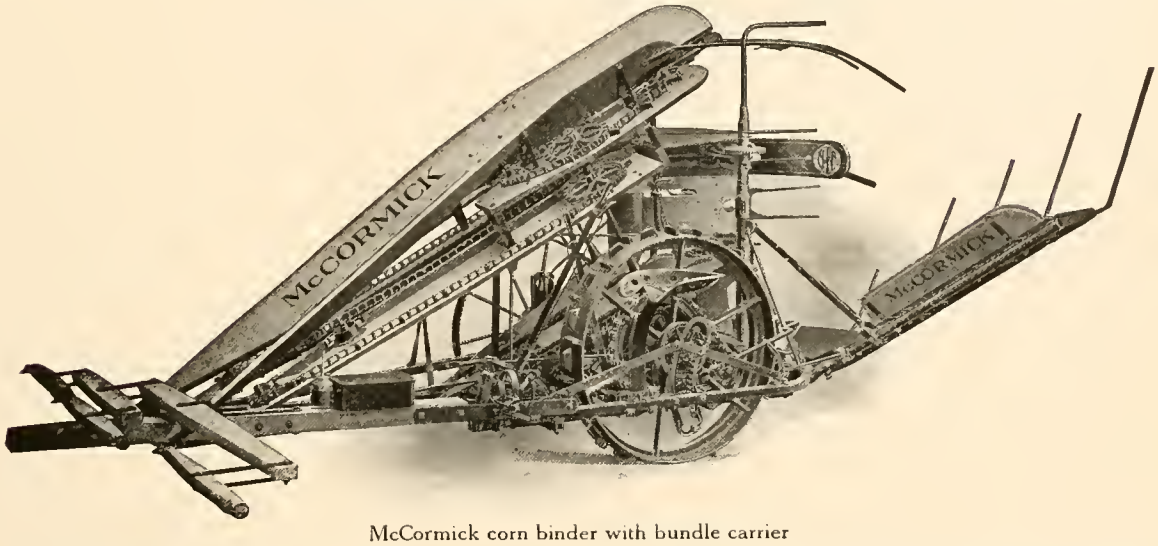
Last, but not least, is the actual feeding value of shredded stover. Livestock is usually turned into the cornfield after the corn crop is harvested, but the food value of the stalks is small even when favored with fair weather, which is unlikely at that season of the year. Snow-covered cornstalks are of less value. When properly shredded, about thirty-seven per cent of the food value of the corn crop is found in the stalks. Thus, for example, if the value of the ear corn from an acre of ground amounts to $25, the value of the shredded cornstalks from the same acre would amount to $14.68.

Thousands of corn growers have eliminated these sources of waste by cutting their corn with a McCormick corn binder, husking the ears, and shredding the stalks with a McCormick husker and shredder. They all agree that it is a paying proposition—that corn machines pay for themselves by the saving they make the first year or two—that the purchase of McCormick corn machines is the first step toward the abolishment of drudgery in harvesting the corn crop.

The sooner you own McCormick corn machines, the sooner you will be saving all of your corn crop. Furthermore, you will not look forward to corn harvest with dread.

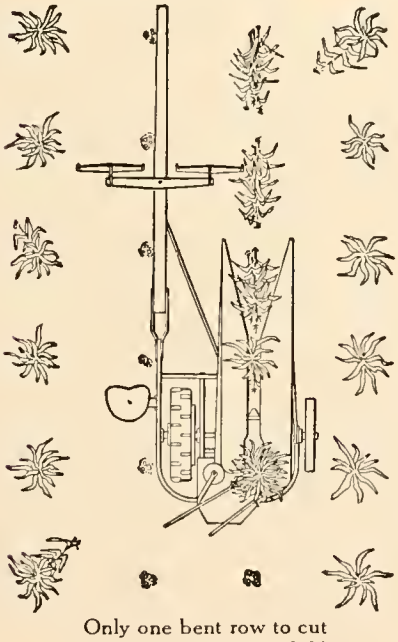
McCORMICK

Save Time and Eliminate Hard Labor with a McCormick Corn Binder



McCormick corn binder with bundle carrier

There is a right time for cutting and shocking corn. This work should be done just as the ears begin to glaze. The sweet, nutritious juices in stalks and blades which make the fodder so valuable are then preserved. A few days' delay in cutting and the stalks and leaves are a tasteless, woody fibre that cattle do not relish.



Only one bent row to cut when opening up a field

To harvest corn at the proper time with a corn knife is almost impossible unless a large force of men is employed to do the work. That means a big expense, and it is not always possible to secure the required help at the right time. Cutting corn by hand is a slow, tedious job and most farm hands prefer farm work that is less disagreeable.

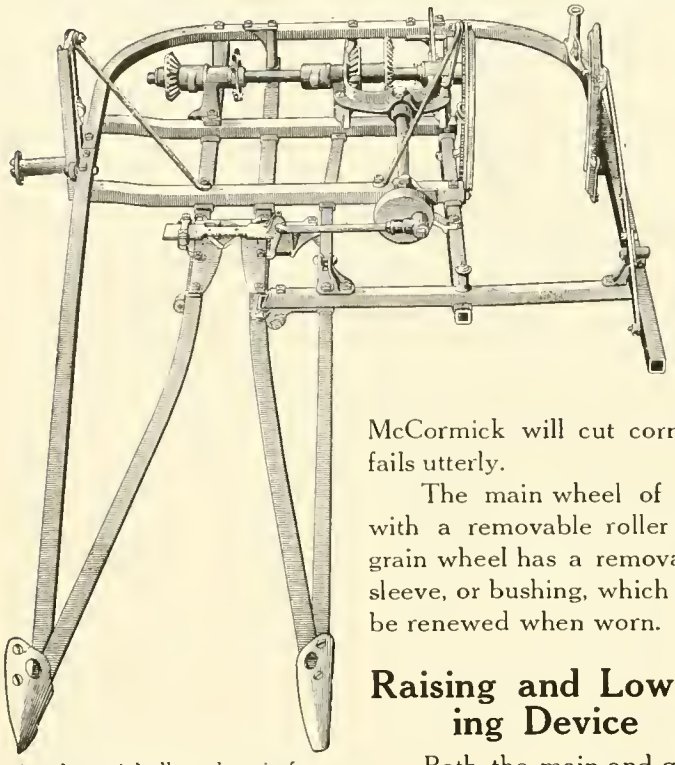
The man who owns a McCormick corn binder is fortified against the danger of the loss of a part of his corn crop. He need not worry about securing extra help, or paying high wages. He can be sure of having his corn safely harvested within the limited time in which the work must be done to get the full feeding value from it.

The McCormick corn binder is simple in construction, light in weight and compact. Two horses will handle it easily in most conditions of corn. These and many other good features make it an especially desirable machine.

The McCormick corn binder straddles only one row of corn in opening up the field. This is a decided advantage because it leaves only one bent row to cut. Farmers of experience want corn binder satisfaction. The McCormick corn binder is built for such farmers.

McCORMICK

Large Main Wheel with a Wide Rim



A substantial all-steel main frame well braced. Notice that the dividers are an extension of the frame

Corn is one of the most difficult crops to handle because the ground in the cornfield is usually loose and the fibre of cornstalks is very tough. Under these conditions it is difficult to secure sufficient traction to operate a corn binder.

The excellent traction of the McCormick corn binder is due, to a great extent, to the construction of the main wheel. The McCormick is equipped with an unusually large main wheel, having a wide rim and large, heavy lugs which grip and hang to the soil. The McCormick will cut corn in the fields where the ordinary binder fails utterly.

The main wheel of the McCormick corn binder is equipped with a removable roller bearing which aids in light draft. The grain wheel has a removable sleeve, or bushing, which can be renewed when worn.

Raising and Lowering Device

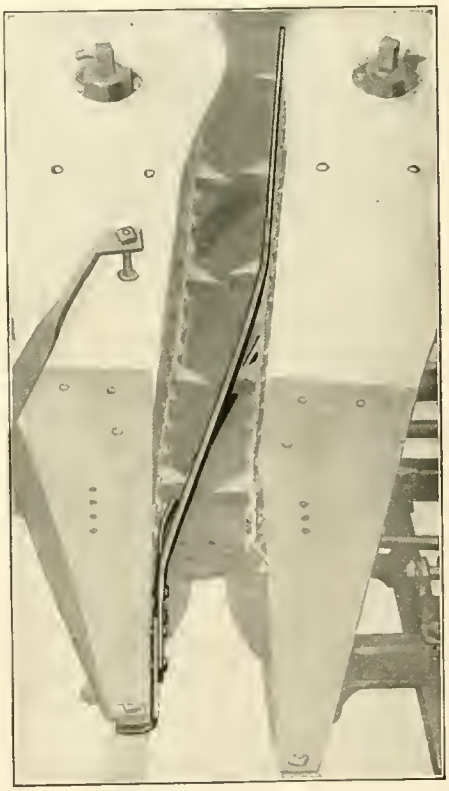
Both the main and grain wheels are provided with worm gears which enable the operator to adjust the machine to cut any desired height of stubble.

A corn binder will always do its best work when working level. The raising and lowering device on the McCormick makes it possible to raise or lower either side of the machine and keep it level for sidehill work.

All-Steel Main Frame

The main frame on the McCormick corn binder is made of square steel tubes. It is trussed and braced like a bridge and will withstand the most severe strains in the field. It holds all the shafts and boxes in perfect alignment in this way contributing much to the light draft of the machine.

The main frame is so compact and rigid that it holds together and supports the entire machine. It is constructed in such a way as to strengthen the extended dividers and hold them properly to their work.



Two flat spring rods help hold the corn in the proper position for elevating

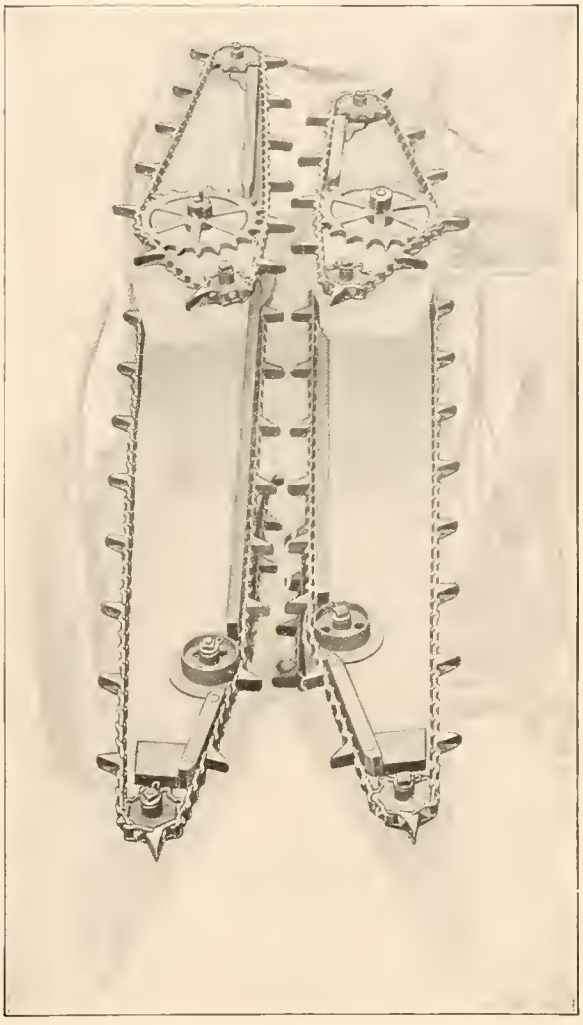
Gathers Bent and Tangled Corn

Almost any corn binder will do fairly good work when the corn is standing and is not too heavy, but it takes an unusually strong binder and one with special features to gather corn when it is down, tangled and twisted. By referring to the illustration of the main frame, it will be seen that the dividers are long and sufficiently wide between the points to pick up bent and tangled stalks which are blown across the rows.

There are three sets of conveyor chains on the McCormick corn binder. Each set of conveyors comprises two chains, one being placed on each side of the dividers on the inside. These chains are so geared that the upper chains move faster than the lower ones. This action of the chains straightens up the bent stalks. The faster motion of the upper chains carries the top portion of the corn back between the dividers so that the stalks are perpendicular when they are cut. They are therefore conveyed to the binding attachment in an upright position.

If the conveyor chains should become loose after long wear, it is an easy matter to tighten them; it is not necessary to remove the chains to do so.

It is an easy matter to tighten the conveyor chains



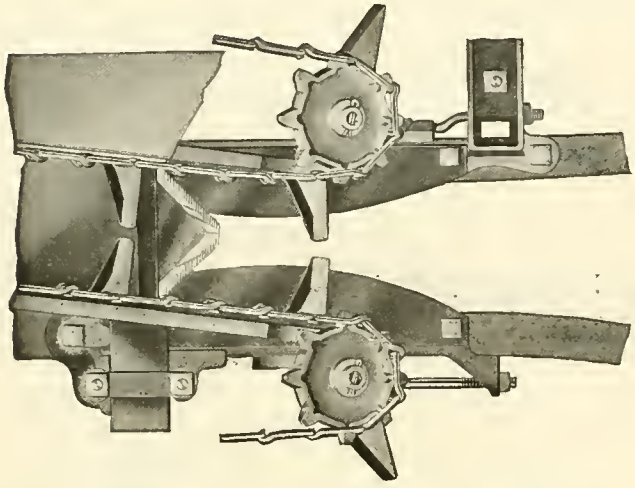
Three sets of conveyor chains are provided for carrying the stalks to the binding attachments in an upward position

Two Flat Springs Hold the Corn Against the Conveyors

Another feature that adds greatly to the satisfactory work of the McCormick corn binder and insures positive elevation of all the cornstalks is the spring rod feature.

One flat spring below the lower conveyor chain and one above it hold the stalks against the chain until the corn gets to a point where the packers are sure to reach it. Without this feature, short corn will fall over and will not be fed properly to the binding attachment. Short corn that is filled with weeds is especially troublesome in this respect.

The McCormick corn binder elevates all the corn, and does it easily.



Sectional view of the cutting apparatus. Notice that the stationary knives curve outwardly from the rear

Cutting Apparatus

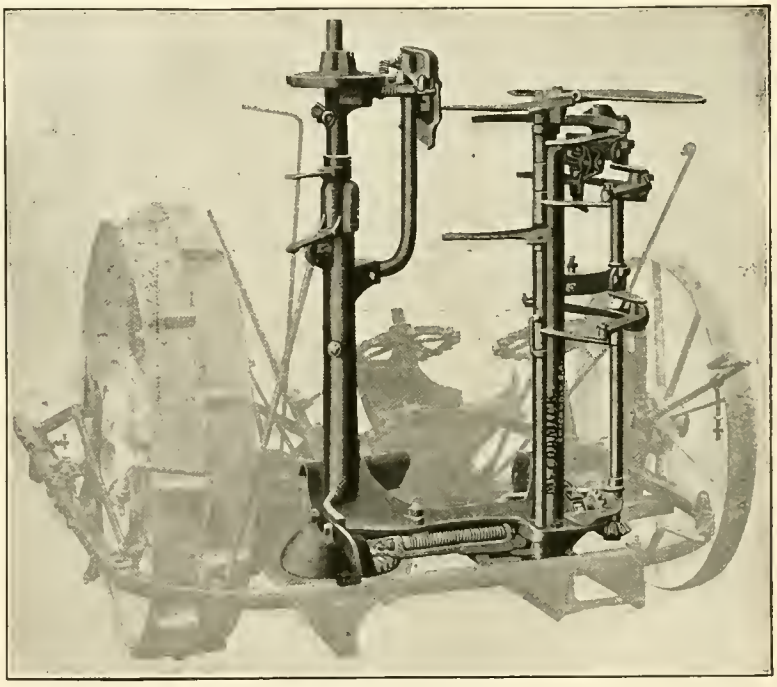
The cutting apparatus on the McCormick corn binder consists of three knives, two stationary and one reciprocating. The position and form of the stationary knives, being curved outwardly from the rear, cause them to cut the stalks with a gradual drawing stroke. Thus the most difficult part of the cutting is completed before the corn reaches the reciprocating knife.

The reciprocating knife completes the operation and cuts all weeds, vines and green undergrowth between the hills in the row. This does away with all possibility of the machine choking and leaves a clean, neat-appearing field.

Efficient Binding Attachment

The binding attachment on the McCormick corn binder consists of upright standards, to which are attached the packers and discharge arms. In design it is very similar to the binding attachment used on the McCormick grain binder, except that it is arranged so that the bundles are bound while in a vertical position instead of in a horizontal position.

Experience has demonstrated that it is easier to bind corn in this position. It requires less power and insures evenly butted bundles which are easy to handle.



A simple and effective binding attachment

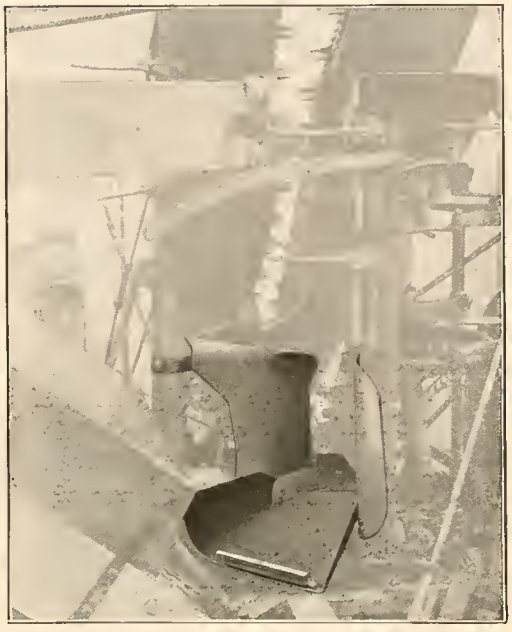
The breastplate is provided with a stop finger which prevents stalks from throwing the twine out of place and discharging unbound corn. The needle has a solid wing which shields the ears from the action of the packers. The packers work below the needle and do not come in contact with the ear corn. Both the lower discharge arm and the lower packer are attached low on the binding attachment. This in connection with the adjustable butt pan feature described on page 7 makes the McCormick corn binder an especially desirable machine for work in short corn.

Accurate Knotter

The McCormick knotter has only two moving parts—the bill hook and the twine disk. These two parts work in an accurately-constructed frame. In tying a knot the twine is fed towards the bill hook by the twine holder. This relieves the strain on the twine and eliminates the danger of the twine pulling out of the twine holder or breaking when tying a knot.

The McCormick knotter does not require as close adjustment in order to tie effectively as other knotters. This is due to the great amount of surface on the cord holder, which is in contact with the twine.

Every McCormick knotter is tested before being shipped. This, together with the simple construction, accounts for its excellent work in the field.

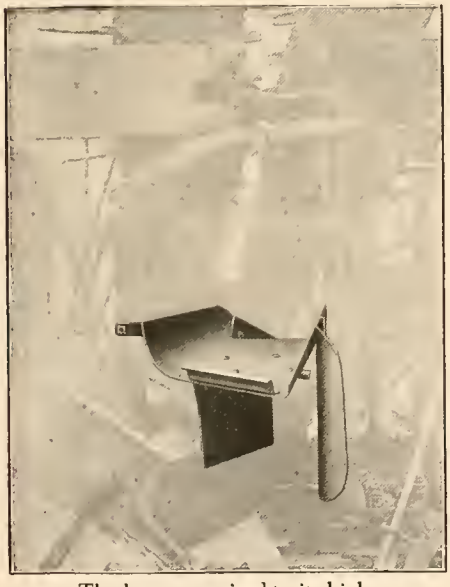


The butt pan at its lowest position for extremely tall corn

Convenient Band Adjustment

The butt pan on the McCormick corn binder has a range of adjustment of 12 inches. By shifting the butt pan high or low, the position of the band on the bundle can be regulated to conform with the requirements of all sizes and conditions of corn.

The lever for changing the position of the butt pan is within easy reach of the driver. This is a decided advantage because frequently both tall and short corn are found in the same field. The range of adjustment is sufficient for binding any length of corn.

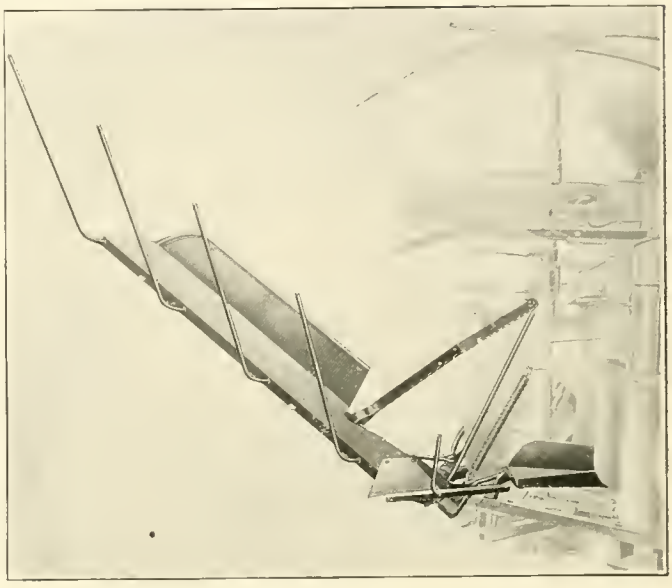


The butt pan raised to its highest position for short corn

The adjustment for tying bundles of long or short corn around the middle can be made from the seat while the machine is in operation

McCormick Bundle Carrier

The McCormick bundle carrier is supplied on special order for McCormick corn binders. It is compact in every detail and can be raised out of the way when not in use. It is controlled by a foot treadle and delivers the bundles gently across the rows out of the way of horses and machine. Three to five bundles can be carried on this bundle carrier. Hence, there is a big saving of labor in shocking the corn.

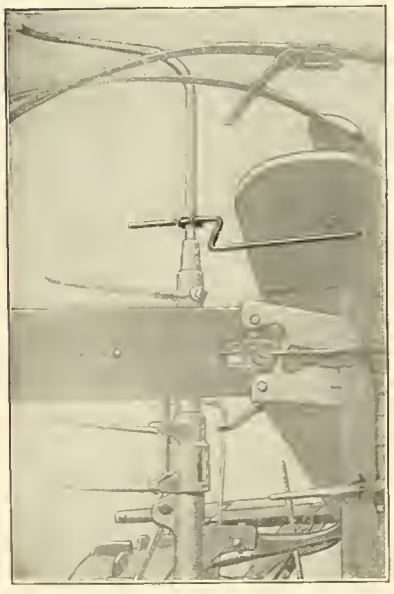


The McCormick bundle carrier swings the bundles out of the way of horses and machine

Kaffir Corn Attachment

The Kaffir corn attachment is a zigzag-shaped rod which can be attached to the discharge arm of the McCormick corn binder to hold the heads of Kaffir corn, milo maize, and similar grains in the proper position to the binding attachment until tied and discharged.

This attachment can be supplied for any McCormick corn binder at small cost.



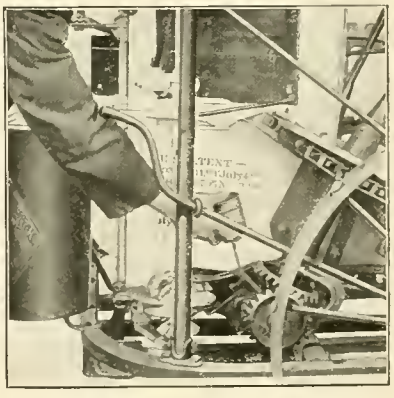
Kaffir corn attachment fastened to the discharge arm

The McCormick is Easy to Oil

More machines become badly worn from lack of oil than from actual work in the field. To do away with this condition, the designers of the McCormick corn binder have seen to it that all oil holes can be seen readily, and are within easy reach.

Oiling from the front of a machine is dangerous when horses are hitched to it. All oil holes on the McCormick can be reached from the sides and rear of the machine.

By keeping the driving shaft, the packers, and the roller axles on the rocking lever well oiled, the life of the machine is lengthened and the draft reduced.



All oil holes can be seen readily and are within easy reach

McCORMICK

The tongue truck keeps the corn binder running steadily

Tongue Truck

A tongue truck can be furnished with the McCormick corn binder at a slight additional cost. The short stub tongue and all the parts necessary to attach the tongue truck to the corn binder are furnished regularly with the attachment. The holes in the pole are properly bored and adjustments are made to make it easy to attach the tongue truck when ordered as a separate attachment.

When equipped with a tongue truck, the weight of the McCormick corn binder is more evenly distributed to the ground and the binder runs very steadily.

A feature of the McCormick tongue truck is the way the wheels are hinged. In turning corners, the wheels turn at a greater angle than the pole. This makes it easy to turn square corners without crowding the horses. Every farmer will appreciate this convenience when he recalls the difficulty of making short turns with more than two horses in his team.

McCormick Twine

McCormick twine is made from carefully selected sisal and manila fibres, and every step in the manufacture is taken under rigid inspection. Every lot of McCormick twine is weighed, measured, and tested to insure full length and full strength.

As a result, McCormick twine is always reliable and dependable. It does not clog or kink, is free from flaws, and will not pull thin and break like inferior twine.

Buy McCormick twine if you wish to avoid troubles in the cornfield. It is made in the five following brands:

Sisal	500 feet per pound
Standard	500 feet per pound
Extra Manila	550 feet per pound
Manila	600 feet per pound
Pure Manila	650 feet per pound

Insist upon getting McCormick twine — it works freely in the knotter

McCORMICK

The McCormick Corn Binder Elevator Saves Extra Handling of Bound Bundles

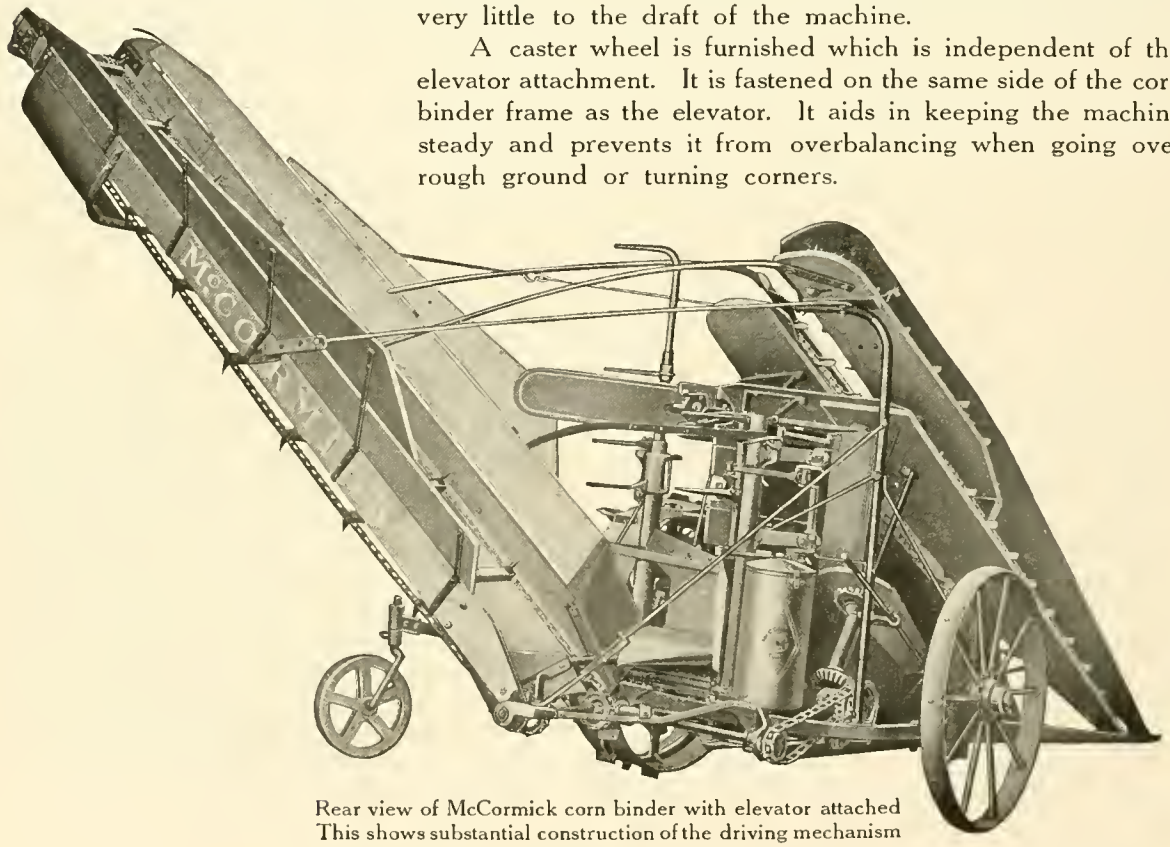
Quite frequently farmers who use a corn binder wish to cut their corn and place it in the silo while green. In some instances they desire to fall plow their cornfields. Then it is best to remove the corn and stack it convenient to the barn where it can be shredded later on. In cases of this kind, the corn binder elevator saves much time and labor in handling the bound bundles.

The McCormick elevator attachment is built to meet the demand of busy farmers. It does away with the extra handling of bound bundles in the field. It can be placed on any McCormick corn binder without making any new holes in the frame. It simply takes the place of the bundle carrier. This attachment elevates the bundles when they are discharged from the machine and delivers them endwise to the wagon drawn alongside of the machine. It is not necessary to turn the bundles for they are deposited on the wagon in such a way as to make the loading easy.

If a corn binder elevator is to give satisfaction, it must be light in construction so that it will not add to the draft of the machine. At the same time, it must be very strong and thoroughly braced. The McCormick corn binder elevator is securely attached to the corn binder at the lower end, and thoroughly braced by steel rods at the upper end. It is as light as an elevator can be and still do good work.

The elevator attachment is 11 feet 6 inches long, and 26 inches wide over all. The flaring side boards are 8 inches wide and have extensions at the center. This attachment adds very little to the draft of the machine.

A caster wheel is furnished which is independent of the elevator attachment. It is fastened on the same side of the corn binder frame as the elevator. It aids in keeping the machine steady and prevents it from overbalancing when going over rough ground or turning corners.



Rear view of McCormick corn binder with elevator attached
This shows substantial construction of the driving mechanism

How the Elevator Attachment Operates

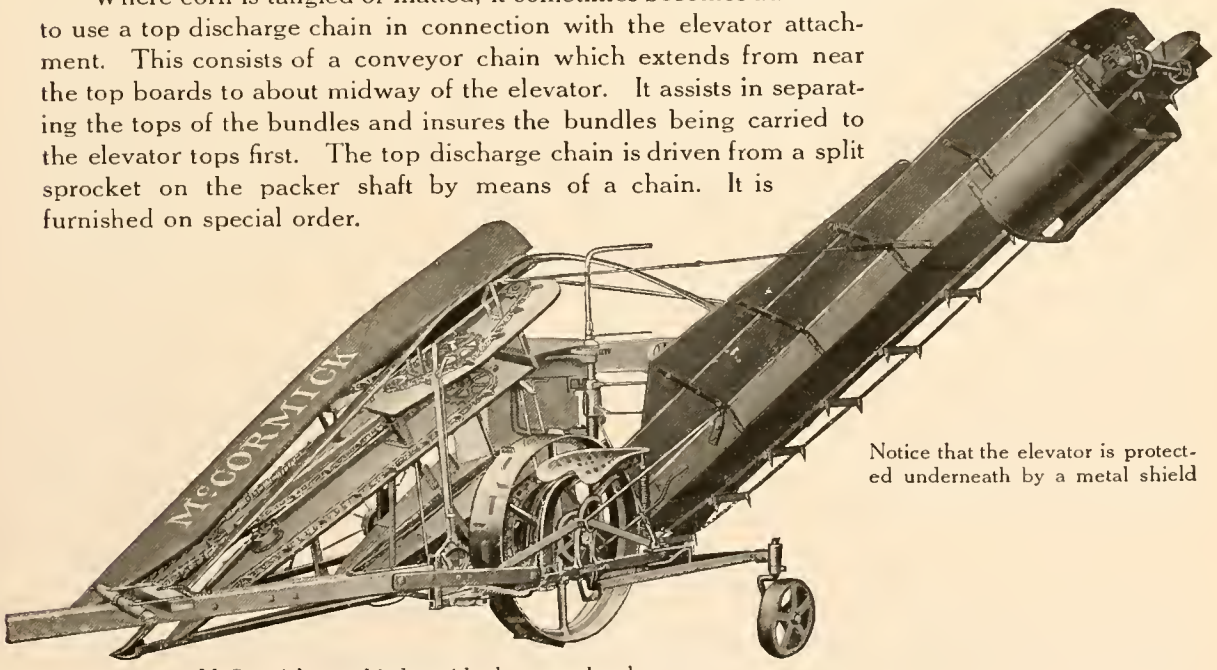
The elevator is adjustable to three positions
It will accommodate any height of wagon

The McCormick elevator attachment is operated from the binder by means of a chain which is driven from the main countershaft. This chain is kept at the proper tension at all times by means of a very efficient tightener. All gears and sprockets on the elevator are correctly designed so that they run with a minimum amount of friction.

The conveyor for carrying the corn to the wagon consists of two chains connected with wooden slats at intervals of 16¼ inches. Each of these slats has two metal fingers which engage the bound bundles as they are delivered to the elevator. Properly formed rods, similar to the rods on the regular bundle carrier, guide the bundles and insure their falling squarely on the elevator.

An ordinary wagon with a hay rack attached can be driven under the elevator without danger of coming in contact with it. The upper end of the elevator is a sufficient distance from the ground to permit of a large load being taken on if desired. The upper part of the elevator is protected by a metal shield. This prevents the conveyor from coming in contact with any part of the load. The elevator is hung loose, so that it will give and not break if it strikes the wagon. This attachment is adjustable to three positions or heights to accommodate any height of wagon.

Where corn is tangled or matted, it sometimes becomes advisable to use a top discharge chain in connection with the elevator attachment. This consists of a conveyor chain which extends from near the top boards to about midway of the elevator. It assists in separating the tops of the bundles and insures the bundles being carried to the elevator tops first. The top discharge chain is driven from a split sprocket on the packer shaft by means of a chain. It is furnished on special order.



Notice that the elevator is protected underneath by a metal shield

McCormick corn binder with elevator—the elevator can be attached in place of the bundle carrier

McCORMICK

A Husker and Shredder Husks the Corn Quickly and Increases the Feeding Value of the Fodder

A McCormick husker and shredder being operated by an I H C oil engine—the ideal outfit for handling the corn crop economically

Corn fodder must be shredded to get the full feeding value from it. Shredding adds nothing to the fodder but merely reduces it to a condition so that stock can eat it. Authorities agree that at least 30 per cent of the value of the corn crop is contained in the stalks. Properly handled corn stover has a high feeding value, and it proves an excellent substitute for hay.

In the course of a season storms ruin a great part of the nutriment of the stalks when left in the field. Shredded stover occupies less space than the stalks in an uncut form, and can be blown into the mow where it is protected from the damaging storms, and is convenient to feed to the stock.

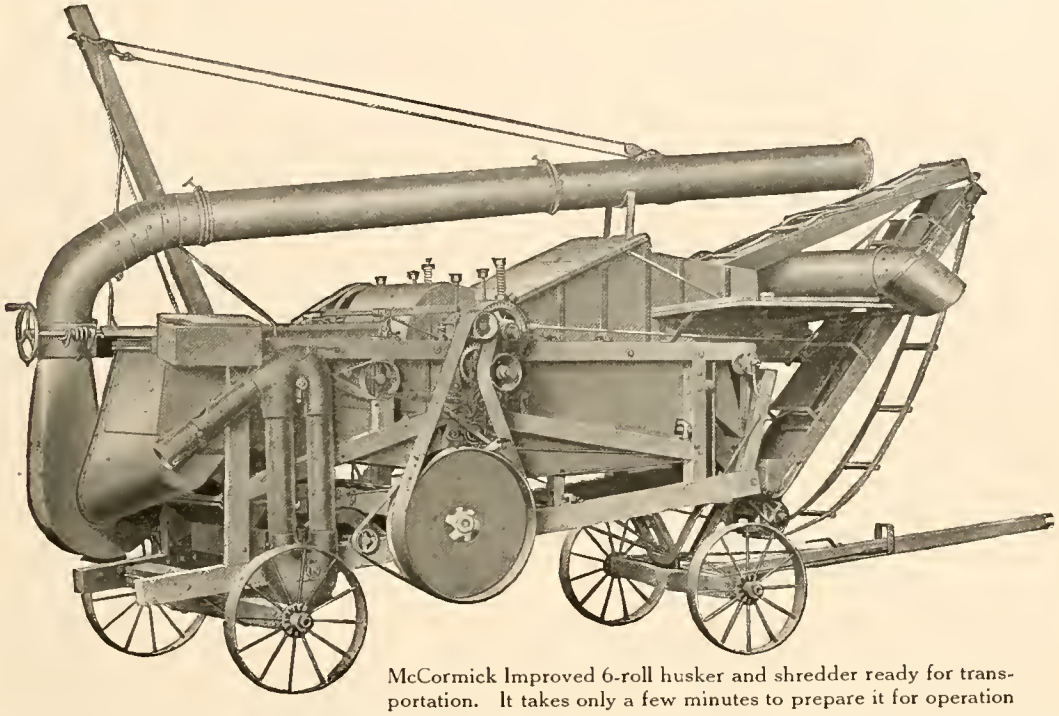
Another point to consider is the fact that husking shocked corn by hand is a most unpleasant task. It is usually done late in the fall or early in the winter when it rains, snows, and sleets. Shocks are torn down and hunted through for the ears of corn. The husks are removed and the ears piled on the ground where they are exposed to the elements. This naturally causes a waste of part of the crop besides being a waste of much valuable time.

With the advent of high prices and the scarcity of help, it is absolutely necessary to make every minute count. In many sections, time is saved by several farmers banding together and buying a husker and shredder in partnership. The machine is started early in the fall and never allowed to remain idle till all the partners have their corn safely under cover. By resorting to the exchange of help plan, the cost of husking is reduced to a very small figure. Husking corn with a shredder leaves the shredded stover as clear gain when the cost per bushel is compared with the old method of husking by hand.

With a McCormick husker and shredder, corn can be husked and the stalks shredded in record-breaking time. The stover will be delivered to the barn or stack, and the ears delivered to the wagon or corn crib. With the extra value secured from the fodder by this method, and with the saving of time and labor, there is no question but that the McCormick husker and shredder will enable a farmer to greatly increase the profits of his corn crop.

McCORMICK

McCormick Improved 6-Roll Husker and Shredder



McCormick Improved 6-roll husker and shredder ready for transportation. It takes only a few minutes to prepare it for operation

The McCormick Improved 6-roll husker and shredder is a large capacity machine. It appeals to farmers who grow corn extensively and for those who make a practice of doing custom work.

A feature of the Improved 6-roll that will appeal to a shredder man is the ease with which it can be moved from one job to another. The feed tables and blower pipe can be folded out of the way. There are no attachments to be removed. Everything is compact, and it takes only a few minutes to prepare the machine for operation when the new job is reached.

The speed of the shredder head on the Improved 6-roll is about 1,000 revolutions per minute. In average conditions, when operated at full capacity, this shredder will husk from 50 to 75 bushels per hour.

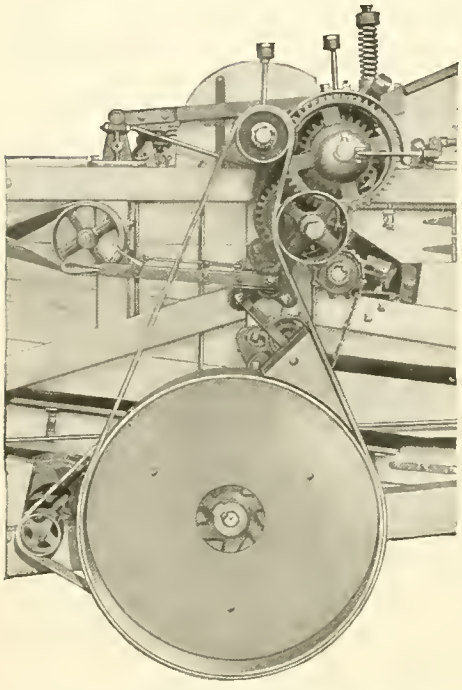
It requires from a 15 to a 20-H. P. oil engine to operate this machine. A 20-H. P. oil engine will run it to its maximum capacity.

McCormick Shredders Equipped with Safety Appliances

All the huskers and shredders described in this catalogue are equipped with the safety devices required by the Labor Commission of the state of Minnesota which as you know has exceptionally stringent laws in regard to safety appliances.

Hard oilers with long feed pipes are provided to reduce danger in oiling. Gear shields are used to avoid clothing becoming entangled in the gears.

Safety clutches controlled by levers extending to the feed table are provided for throwing the snapping rolls and the self-feeder in and out of gear. These devices make it unnecessary for the operator to take any risks should stalks or obstructions become wedged in the front of the rolls.



Side view of the Improved 6-roll showing how power is transmitted from the shredder head to the crank shaft pulley. The belt tightener for this belt is operated by a lever

How Power is Applied to the Improved 6-Roll

Power is applied directly to the shredder head. From here it is transmitted to the crank shaft and to the blower by means of belts, and to the lower snapping roller by extra strong gears. The upper snapping roller is driven by a chain through a countershaft direct from the lower roller. This chain is kept at the right tension for good work by an automatic tightener which quickly adjusts itself as the rollers spread out or come together in taking more or less fodder through the snapping rolls.

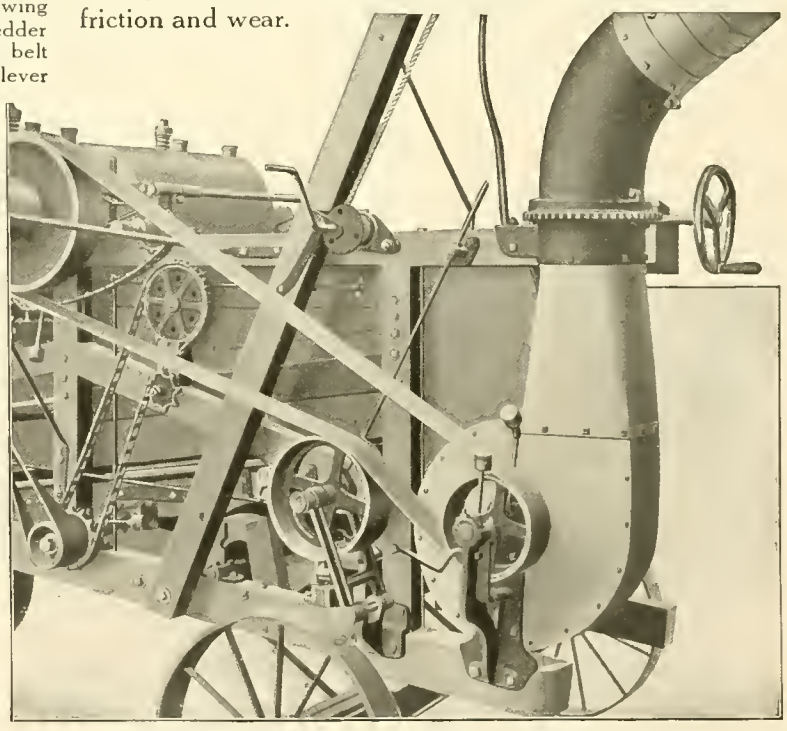
This arrangement for driving the snapping rolls gives the McCormick greater capacity than that of the ordinary machine of the same size, and makes it possible to change the position of the rolls in relation to each other for various conditions of corn.

The crank shaft belt and the blower belt are furnished with adjustable belt tighteners, which are clearly illustrated on this page. These tighteners make it possible to get the best power from the belts with the minimum amount of friction and wear.

The self-feeder, husking rolls, agitators, ear corn elevator, beater, etc., are run by the power furnished from the crank shaft.

The cleaning fan for removing stalks, leaves, etc. from the shelled corn is operated by a small belt direct from the crank shaft pulley. This fan is furnished only on the Improved 6-roll. The suction from the blower on the Improved 8-roll is sufficient to clean the shelled corn thoroughly.

All chains which are used to transmit power on the McCormick Improved huskers and shredders are equipped with effective chain tighteners which hold the chains at the proper tension for good work.

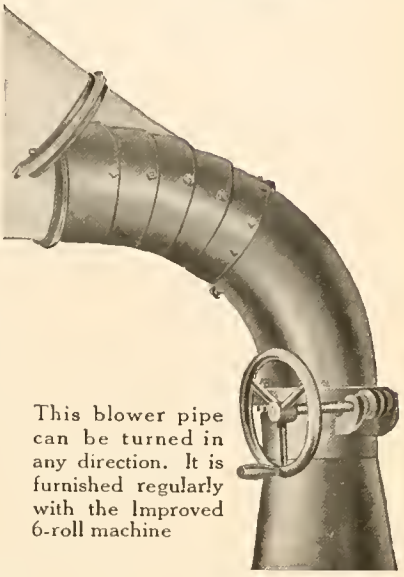


Rear view of Improved 6-roll machine to show method of driving the blower. The tightener for the blower belt is exceptionally strong and has a wide range of adjustment

Cutter Head for Improved 6-Roll Husker and Shredder

A cutter head can be substituted for the shredder head on the Improved 6-roll husker and shredder. This device, which is furnished on special order at additional cost, is so constructed that the knives can be supplied to cut three lengths of stalks. Four long knives cut ¾-inch lengths, two long knives, 1½-inch lengths, and two short knives, 3-inch lengths.

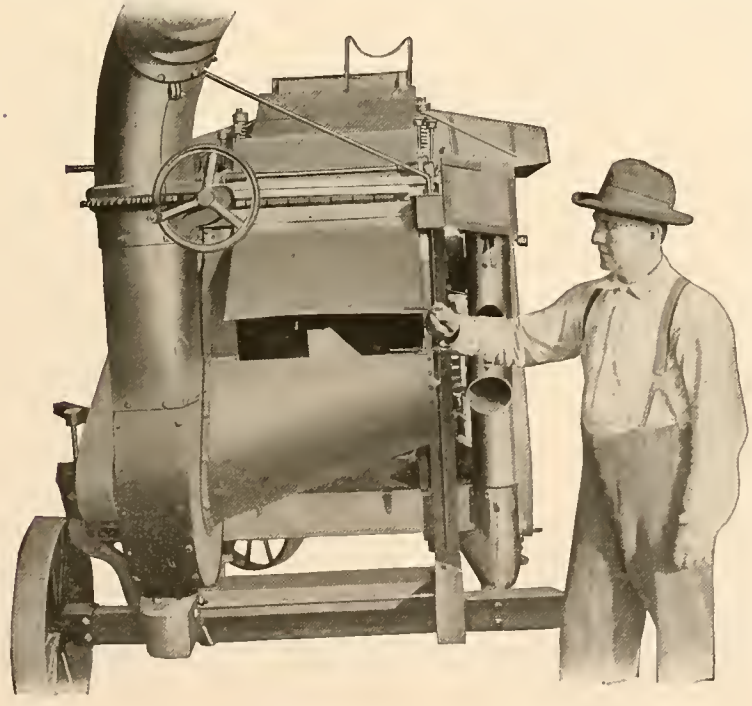
When ordering the Improved 6-roll machine with a cutter head, the number of knives should be specified. Also whether the knives are to be long or short. If desired, sufficient knives will be furnished so that adjustments can be made for cutting any one of the three lengths. This gives the operator the advantage of having three cutter heads in one.



This blower pipe can be turned in any direction. It is furnished regularly with the Improved 6-roll machine

Blower Pipe Can be Turned in any Direction

The blower pipe on the McCormick Improved 6-roll machine is made up of sections securely connected by substantial bands that join each section. As many sections as desired may be joined together quickly and held firmly in any position by means of thumbscrews.



Rear view of the Improved 6-roll to show the hinged cover which makes the blower accessible. Notice that the blower pipe can be swung in a complete circle

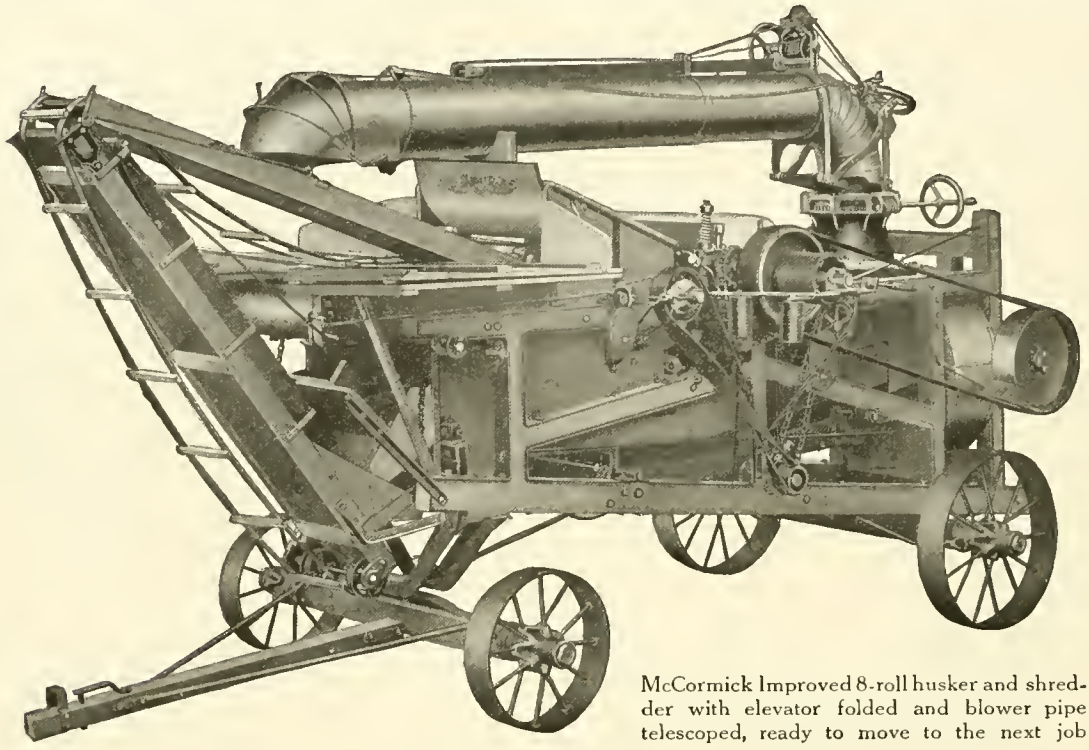
The blower pipe is mounted on a turntable so that the stover can be blown in any direction. It permits the blower pipe to be moved in a complete circle, which aids in building stacks or in filling mows and silos. The blower has force enough to blow the stover to any part of the ordinary mow. This saves time and labor in distributing the stover.

An adjustable feature makes it possible to run the blower pipe to almost any desired angle. The hood at the end of the pipe is also adjustable and is operated by ropes.

Twenty feet of pipe are furnished regularly with this machine and additional sections will be furnished on special order.

A hinged cover on the rear of the Improved 6-roll makes the blower, shaker, sieve and shelled-corn forwarder easily accessible.

McCormick Improved 8-Roll Husker and Shredder



McCormick Improved 8-roll husker and shredder with elevator folded and blower pipe telescoped, ready to move to the next job

The McCormick Improved 8-roll husker and shredder is much the same as the Improved 6-roll except that its capacity is greater and it requires a little larger engine for operation.

This machine is as simple as it is possible for a husker and shredder to be and still do good work. The quality of work done cannot be equalled.

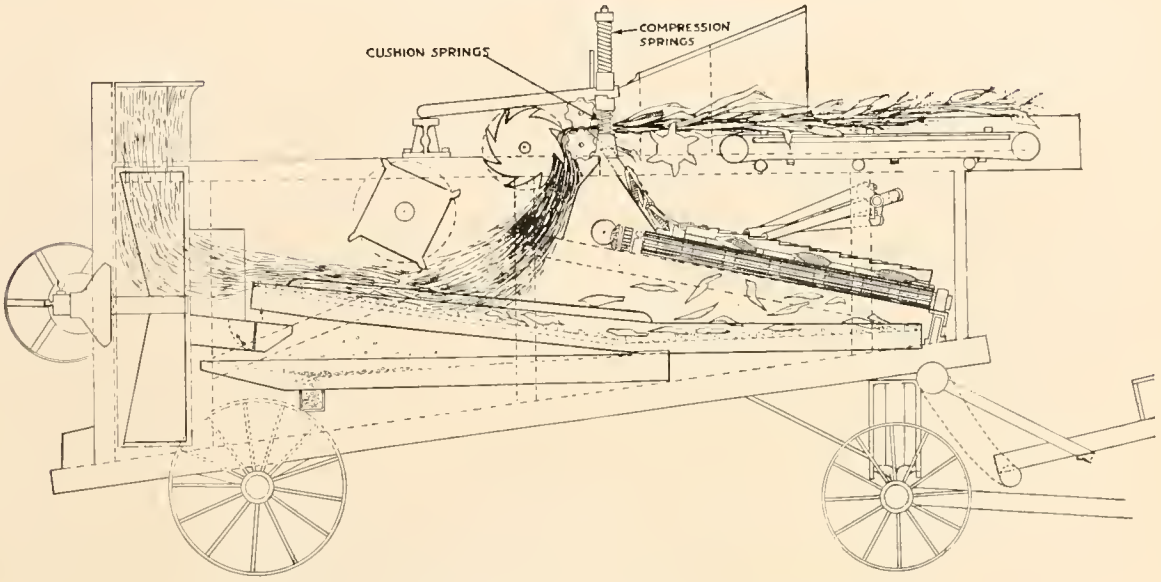
The blower is at the extreme rear of the machine in direct line with the course which the stover takes. The outside of the blower is made of sheet steel. To this is riveted a malleable spider with six arms, to which steel fan blades are fastened. The fan blades are reinforced by steel bars on the top and outer edge where the stover strikes when entering the fan. A heavy steel brace is riveted to the bottom of each of the fan blades and disk, thus insuring a very rigid and durable fan. The spider is keyed to the fan shaft. The bevel gears which operate the fan are propelled by direct power from the flywheel of the shredder head.

The speed of the shredder head is about 1,000 revolutions per minute. The quality of corn, weather conditions, etc., determine to a large extent the amount of corn that can be husked in a day. Under favorable conditions, however, the 8-roll will husk from 80 to 100 bushels per hour. It requires from a 20 to a 25-H. P. oil engine to operate this machine, 25-H. P. being required to get the maximum capacity.

The 8-roll machine is equipped regularly with the "Farmer's Friend" blower. The pipe can be swung in a complete circle. It is made to telescope, and can be lengthened or shortened while the shredder is in operation.

McCORMICK

How the Improved 8-Roll Operates

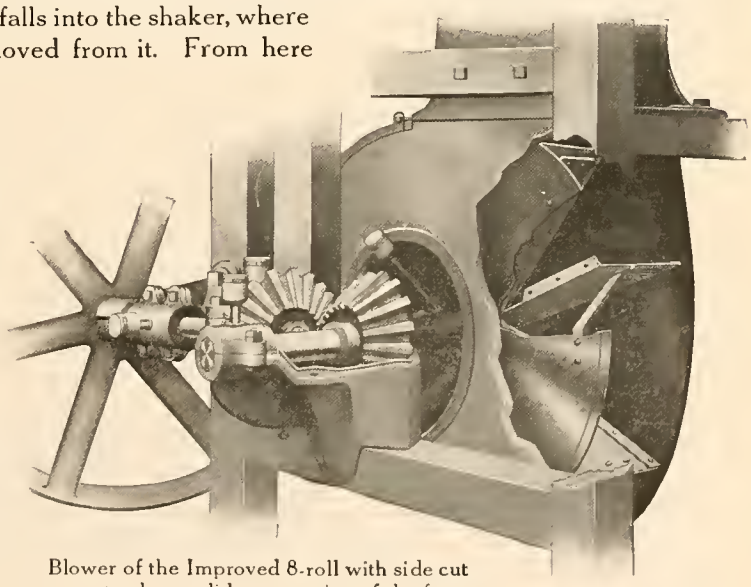


Sectional view of McCormick Improved 8-roll husker and shredder, which shows the course that corn and stover take in going through the machine

The sectional view above is designed to show how the McCormick Improved 8-roll husker and shredder operates. The whole corn is carried from the feed table to the snapping rolls by the self feeder, which is made up of an endless belt, a feeder head and a retarding hood. The snapping rolls remove the ears and deliver the stalks to the shredder head where they are torn into small pieces. The shredded stover then falls into the shaker, where all shelled corn, smut, dirt, etc., is removed from it. From here the stover is carried through the blower pipe to the stack or mow.

After the ear corn is removed by the snapping rolls, it drops to the husking rolls which have a large husking surface. The husking rolls remove all the husks and deliver the ears to the conveyor, which carries the corn to the wagon box, bin, or crib, as may be desired.

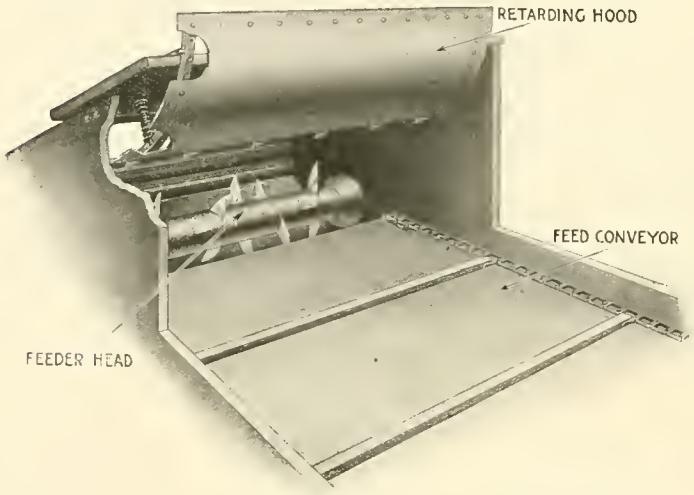
Agitators are placed over the husking rolls to keep the ears moving parallel with the rolls. These agitators extend well up to the snapping rolls and straighten up short and broken stalks so that the machine can handle them.



Blower of the Improved 8-roll with side cut away to show solid construction of the fans

Features Common to McCormick Improved 6 and 8-Roll Huskers and Shredders

Self-Feeder Eliminates Danger of Operator Becoming Injured



Self-feed which is furnished with all Improved 6 and 8-roll machines

McCormick Improved 6 and 8-roll huskers and shredders are equipped with the best and most practical self-feeder ever placed on a husker and shredder.

This self-feeder forwards the stalks to the snapping rolls in a continuous flow and does away with the danger of the feeder's hands getting caught in the rolls. It is utterly impossible for the feeder to meet with an accident unless he deliberately leaves the feeding platform and steps on to the feed table.

The McCormick self-feeder is comprised of a conveyor belt, a feeder head, and a retarding hood. The feeder head, which is placed in front of the snapping rolls, acts as a force feed, bridging the space between the belt and the snapping rolls. The conveyor belt carries the stalks to the feeder head. The knives on the feeder head move the stalks forward and prevent the accumulation of broken pieces of stalks and leaves. The retarding hood is placed over the conveyor belt. It retards the tops of the bundles and prevents the stalks from getting into the machine in whole bunches. It assists in furnishing an even flow of stalks to the snapping rolls. The retarding hood is hinged at each end. This permits it to adjust itself to large and small bunches of stalks.

The man who is feeding a McCormick husker and shredder has absolute control over the feeding mechanism at all times. Should anything go wrong with the machine, he can stop the self-feeder and snapping rolls instantly by means of the gear-shifter rods, which are conveniently located immediately under the edge of the feed table, where they are out of the way and do not interfere with the handling of the corn.

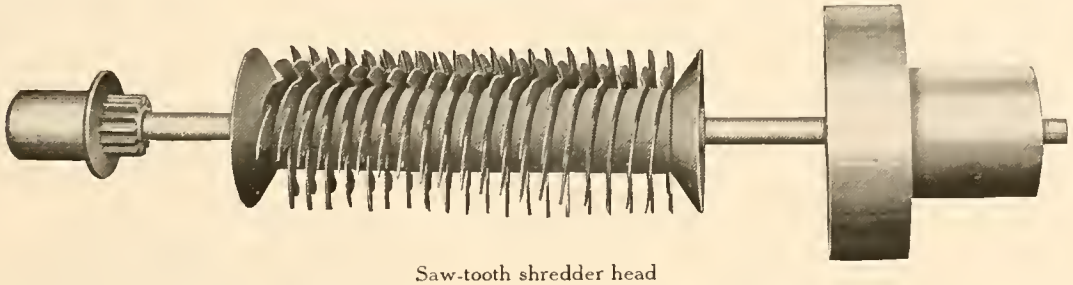
The snapping rolls on the Improved 6-roll machine are 24 5/16 inches long and on the Improved 8-roll machine they are 34½ inches long

Aggressive Snapping Rolls

McCormick snapping rolls have heavy corrugations or flutes running lengthwise, which make them very aggressive. The snapping rolls are placed in the machine one above the other, immediately in front of the shredder head. They can be operated in different positions with relation to the bars and spaces. If the stalks are hard and frozen, the bars may be set opposite each other, but for ordinary work the rolls should be adjusted so that the bars will be opposite the spaces. To make this adjustment, it is only necessary to remove the snapping roll chain, turn the top roll to the desired position, and put on the chain again.

Owing to the corrugations or ribs on the rolls the ears are snapped from the stalks without being crushed. The tension springs at each end of the roll are stiff enough so that the rolls will snap off ears of corn and still open up freely to permit stalks to pass through without binding on the boxes or adding to the draft of the machine. The tension of these springs can be adjusted to keep the rolls in proper mesh at all times. The lower snapping roll runs in removable brass boxes, which can be renewed when worn.

Shredder Head



Saw-tooth shredder head

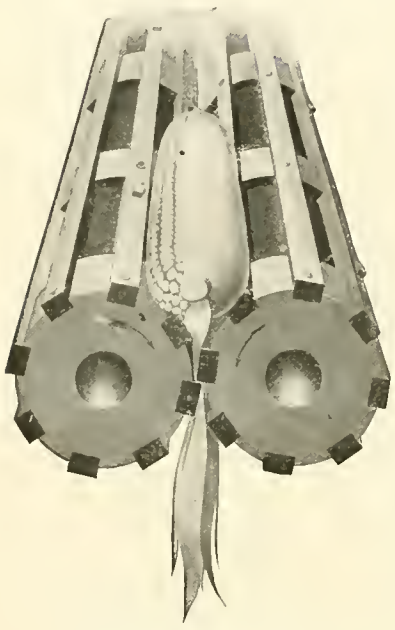
The McCormick shredder head slits the stalks into fine pieces, tearing out the pith so that it makes an excellent absorbent. It breaks up the fodder so that more is eaten by the cattle, especially the joints and sweet portions of the stalks where sugary matter collects. It shreds the fodder without leaving chunks or sharp-edged pieces which are hard for the cattle to digest.

The shredder head regularly furnished is of the saw-tooth type, which consists of saw-shaped teeth arranged in the form of a double spiral. The construction is such that in one revolution of the shredder head no two teeth strike the stalks in the same place. As a result, the teeth come in contact with every portion of the stalk and shred the fodder thoroughly.

The knife type of shredder head which is furnished on special order cuts and shreds the fodder. Both the knife type and the saw-tooth type of shredder heads are clearly illustrated on this page. Notice that the ends of the shredder head are bell-shaped. This prevents stalks from winding on the shaft and keeps dirt and trash from falling into the babbitted bearings or boxes.

It is not necessary to run the McCormick shredder head at excessive speed to get good results. Its construction is such that it will do excellent work when running one thousand revolutions per minute.

Knife shredder head furnished on special order



McCormick husking rolls have a large husking capacity

Husking Rolls Have Large Capacity

McCormick huskers and shredders are equipped with the celebrated interlocking husking rolls which have a reputation for large capacity and clean husking wherever huskers and shredders are used.

The husking rolls on the Improved 6-roll husker and shredder are 38½ inches long; on the Improved 8-roll they are 47½ inches long.

Case-hardened set screws are supplied to be screwed into the bars of each husking roll whenever dry corn is to be shredded. They can be put on or removed easily, hence the machine can be operated with or without them, as the conditions of the corn may require.

The husking rolls on the Improved huskers and shredders are placed parallel with the length of the machine and revolve together in pairs. Each pair of rolls can be taken out independently of the others. Each pair of husking rolls is equipped with a spring at either end which can be adjusted easily to give just the amount of pressure between the rolls the operator desires. These springs are flexible enough to permit the gears to go entirely out of mesh, so that the movable roll stands idle, thus preventing breakage should any foreign substance get between the rolls, or if the rolls become overloaded with trash. While the movable roll stands idle, the other roll shreds the trash, so that it passes through the rolls readily without damage to the machine. The husking roll springs can be renewed when necessary without removing the rolls.

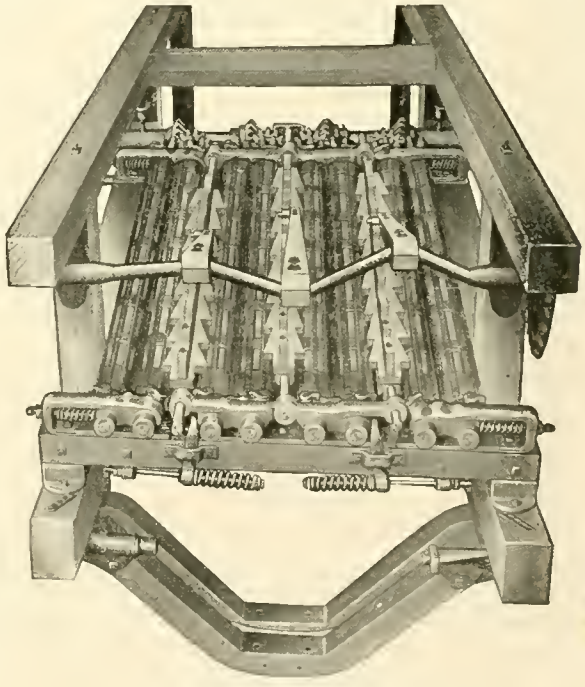
Gears for driving the husking rolls are extra heavy and give long-wearing service. A heavy sill at each end supports the husking rolls and holds them in perfect alignment.

The rolls are provided with removable roller bearings at each end, which reduce draft.

Husking Rolls Equipped with Agitators

Agitators, clearly shown on this page, are placed between each set of rolls and keep the ears straight and moving at all times. They also assist the snapping rolls to clear themselves of all short and broken pieces of stalks which might lodge between the feeder and the rolls.

These features insure clean husking, increase the capacity of the machine, and make it possible to work with the McCormick husker and shredder when other machines are standing idle.

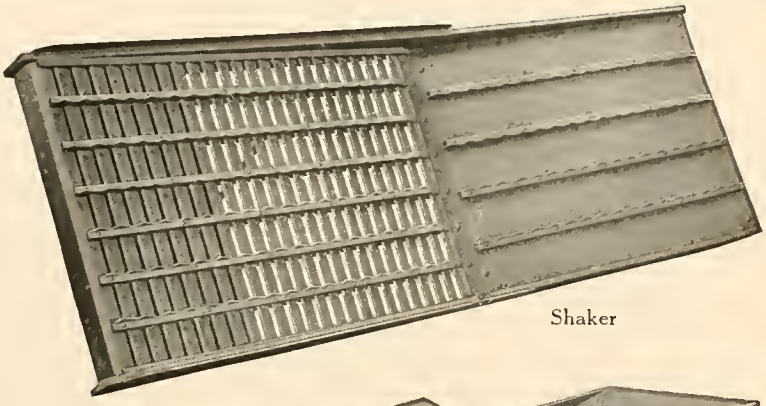


End view of husking rolls showing agitators and tension springs

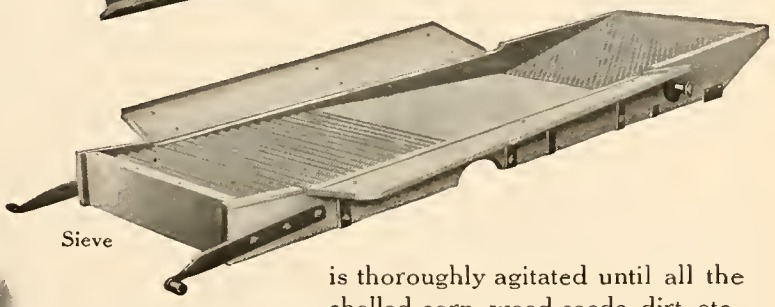
Shelled Corn Removed from Stover and Delivered to the Bagger

No husker and shredder has yet been put on the market that will not shell more or less corn. Dirt and smut will always be found in the stalks to a certain extent. Shredded stover is worth little unless the dirt, smut, and shelled corn are removed in the process of shredding.

Separating the shelled corn from the stover is very important because if the shelled corn is allowed to remain in the stover, fermentation will take place and the stover will become spoiled. The McCormick husker and shredder shells very little corn in shredding, and what is shelled is cleaned and saved.

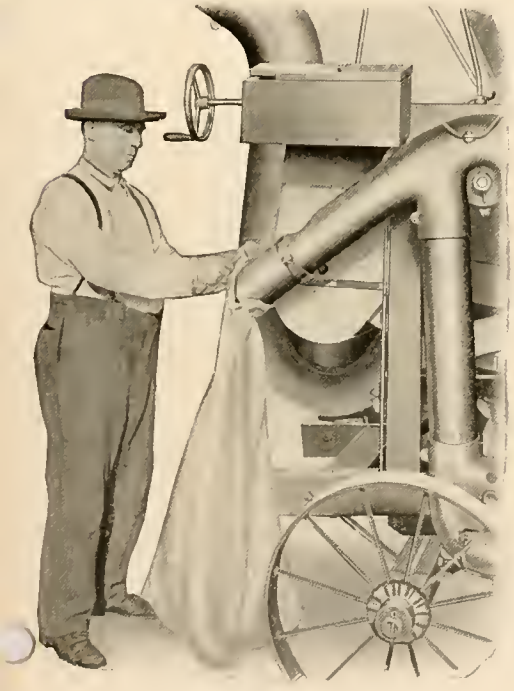


Shaker



Sieve

After the corn passes through the snapping rolls and shredder head, the stover falls to a shaker and is thoroughly agitated until all the shelled corn, weed seeds, dirt, etc., passes through the shaker to the shoe below.



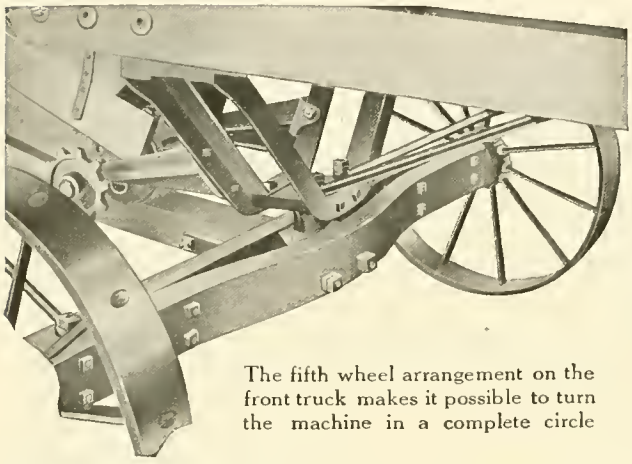
All the shelled corn is cleaned and delivered to this all-metal bagger

The shoe is provided with a sieve and a screen, the action of which separates the dirt, weed seeds, snow, etc., from the shelled corn. The weed seeds, dirt, etc., drop to the ground, and the shelled corn is conveyed to an all-metal bagger, which delivers it into a sack.

While this process of cleaning is going on, the shelled corn is subjected to a suction draft from the blower on the Improved 8-roll, and an under cleaning blast from the cleaner fan on the Improved 6-roll. The action of the air removes pieces of stalks, leaves, etc., which remain in the shelled corn after it passes over the screen.

The shoe is located under the shaker, and has exactly the reverse motion. This makes the action of each more effective because it prevents trash from lodging and accumulating between them in freezing weather.

This construction of the shaker and shoe, together with the manner in which they are attached to the countershaft and rocker arms, makes a practically perfect counterbalance which relieves the shredder of the rocking strains and jars so often found where machines are equipped with vibrators.



The fifth wheel arrangement on the front truck makes it possible to turn the machine in a complete circle

All Steel Axles and Wheels

The trucks on McCormick Improved huskers and shredders are exceptionally strong and heavy. The front and rear axles and wheels are made of steel. The spokes of the wheels are very heavy and are cast solidly into the hub. The front truck is built with a ball-and-socket-joint fifth wheel, and the machine is so constructed that the wheels turn under the sills.

This construction makes it possible to turn the machine in a complete circle in its own length, using the rear wheels as a pivot. This feature will be especially appreciated when it becomes necessary to set the machine where space is limited.

This construction also makes it possible to drive the machine over rough roads without damaging it. There is no twisting strain when one wheel drops into a rut or passes over an obstruction.

The tongue is of the combination type, an extension pole being used for a team. This extension can be removed, leaving a stub pole, which makes a convenient coupling for an engine.

Pulleys and Required Power for Operation

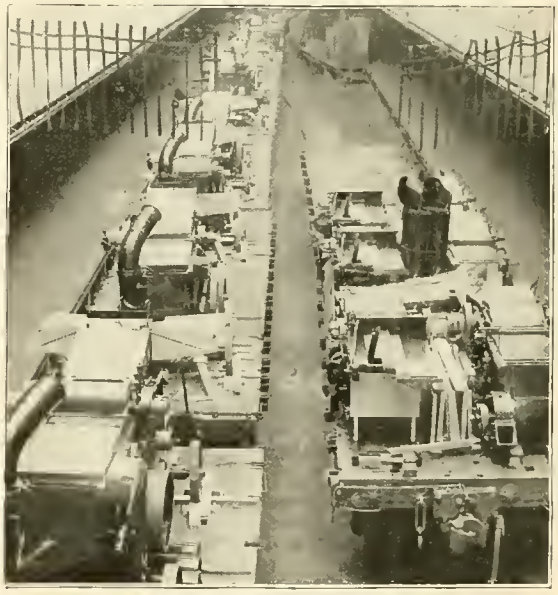
McCormick Improved 6 and 8-roll huskers and shredders are equipped regularly with a 9-inch diameter, 9-inch face drive pulley. On special order a 6, 8, or 10-inch drive pulley will be supplied for either machine. It requires from a 15 to a 20-H. P. oil engine to operate the Improved 6-roll machine to capacity, and from a 20 to a 25-H. P. oil engine to operate the Improved 8-roll.

McCormick Shredder Knife Grinder

The knives of the knife type of shredder head can be sharpened without removing them from the shredder head by means of the McCormick shredder knife grinder. This grinder is similar in design to the regular McCormick knife and tool grinder, the principal difference being the arrangement for attaching it to the machine.

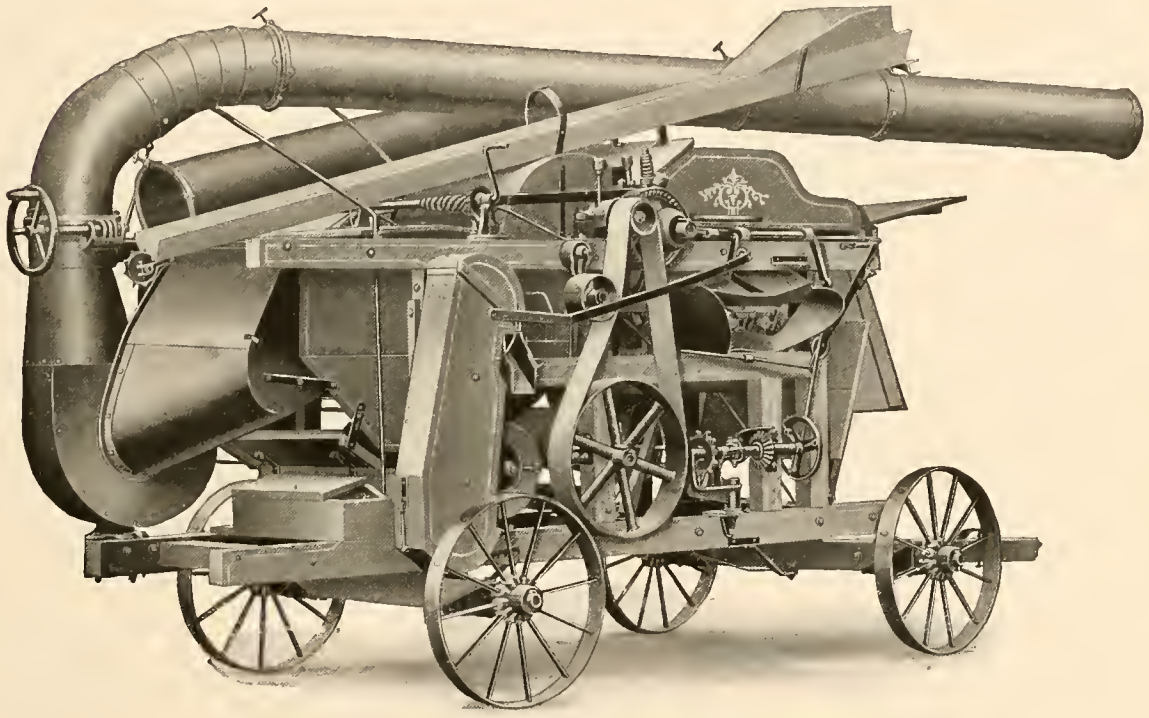
Special directions for mounting and operating this machine are furnished with each grinder. Little experience is required to operate it successfully, for the entire operation of mounting the grinder and sharpening the knives is very simple.

This machine is supplied only on special order.



A trainload of McCormick huskers and shredders ready for shipment

McCormick Little Giant Husker and Shredder



McCormick Little Giant husker and shredder with swinging blower ready for transporting. Shields are removed to show working parts

The McCormick Little Giant husker and shredder is designed and built for the individual farmer, or for those who wish to do custom work on a small scale. It can be furnished with either four or six husking rolls.

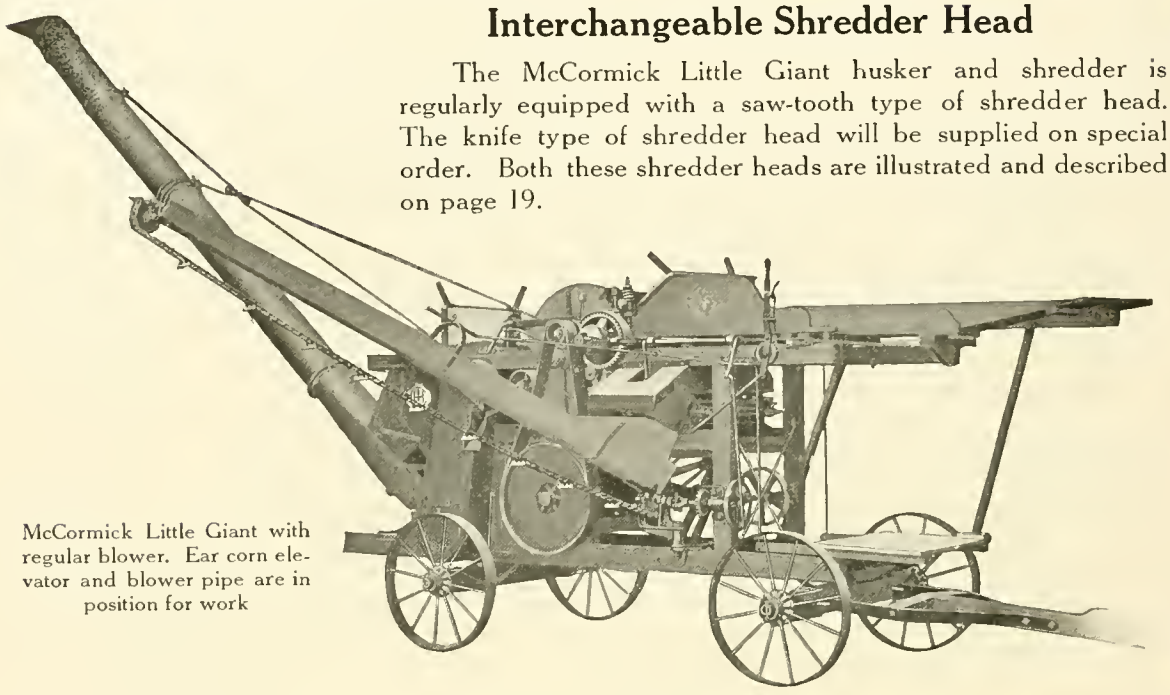
Every detail of this machine has been carefully worked out. The result is that the Little Giant husker and shredder makes perfect fodder and saves all the corn. The husking rolls on the Little Giant machine are placed level with the machine and at right angles to the length. The ear corn elevator operates from the side of the machine.

The Little Giant husker and shredder is regularly equipped with an 8-inch diameter, 8-inch face drive pulley. On special order a 6, 7, 9 or 10-inch drive pulley will be supplied. The speed of the shredder head is about 1,000 revolutions per minute.

The capacity of the Little Giant husker and shredder is sufficiently large to turn out a good day's work without requiring a large number of men and teams to keep the machine in operation. It is the most practical machine for the man whose power is limited. Under average conditions, the Little Giant 4-roll husker and shredder will husk from 25 to 50 bushels per hour. The Little Giant 6-roll will husk from 30 to 60 bushels per hour. It requires from a 12 to a 15-H. P. oil engine to operate the Little Giant to its full capacity.

Interchangeable Shredder Head

The McCormick Little Giant husker and shredder is regularly equipped with a saw-tooth type of shredder head. The knife type of shredder head will be supplied on special order. Both these shredder heads are illustrated and described on page 19.



McCormick Little Giant with regular blower. Ear corn elevator and blower pipe are in position for work

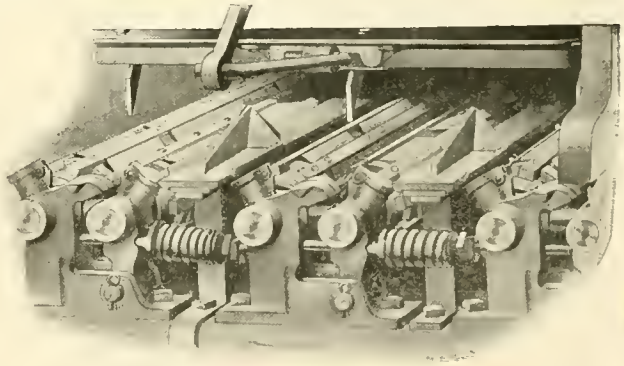
The Little Giant husker and shredder can also be equipped with a cutter head supplied with knives to cut two lengths of stalks. Four long knives cut $\frac{15}{16}$-inch lengths, while two short knives cut $1\frac{7}{8}$-inch lengths. The number of knives should be specified when ordering cutter head for this machine.

Husking Rolls and Reciprocator

The husking rolls on the Little Giant husker and shredder are placed at right angles with the machine. They are arranged in pairs, and are readily accessible. Each pair of rolls can be taken out independently of the others. These rolls interlock like the teeth of a gear which insures clean husking and increases the capacity of the machine.

Each set of rolls is held to its proper position for good work by springs at each end. These springs will give sufficiently to prevent breakage of the rolls when foreign substance gets between them. They can be adjusted easily or replaced without removing the husking rolls.

The reciprocator is furnished regularly on the Little Giant husker and shredder. Its purpose is to keep the ears moving evenly along the husking rolls. The reciprocator does away with clogging or choking at this point, and insures clean husking. It is very efficient, and admits of adjustment for different conditions of corn.

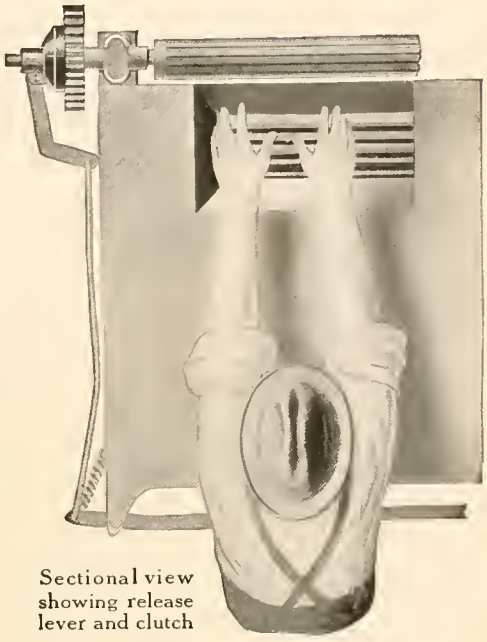


End view of husking rolls showing reciprocator on 6-roll Little Giant shredder

Release Lever — Roller Clutch

A release lever extends across the front of the feed table. This lever enables the operator to protect himself from accidents while feeding the machine. The feeder stands squarely in front of his work, his position being such that the release lever is operated by the pressure of his body. By means of this lever the operator can stop the snapping rolls whenever it is necessary to remove twisted stalks or to prevent foreign substances from passing through the snapping rolls.

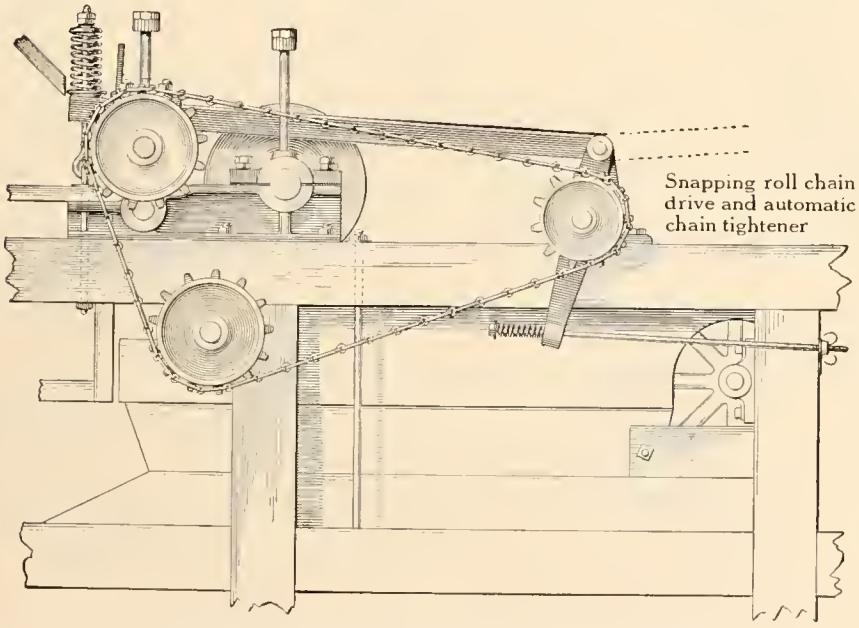
The roller clutch that is operated by this release lever is shown in the illustration. When the feeder places pressure on the release lever, the ratchets in the roller clutch are disengaged and the snapping rolls cease to revolve. This roller clutch imparts an instantaneous and positive motion to the snapping rolls while the machine is put in operation.



Sectional view showing release lever and clutch

Automatic Snapping Roller Drive-Chain Tightener

The manner in which the snapping roller drive chain works is very effective. It is governed by an automatic regulator which keeps a steady motion on the upper roll regardless of its up and down motion. No matter how far apart the snapping rolls are forced by the corn, they cannot get out of line. The chain-tightener stud is fastened to the short stub axle at the rear of the radius bar. The lower end is controlled by a spring. As the pressure between the snapping rolls raises the upper one, the drive chain holds the idler sprocket wheel against the tightener spring. When the upper roll drops back in place, the tightener spring forces the idler back.



The hard oil cups on the shredder head and on the snapping rollers have long feed pipes to make oiling safe

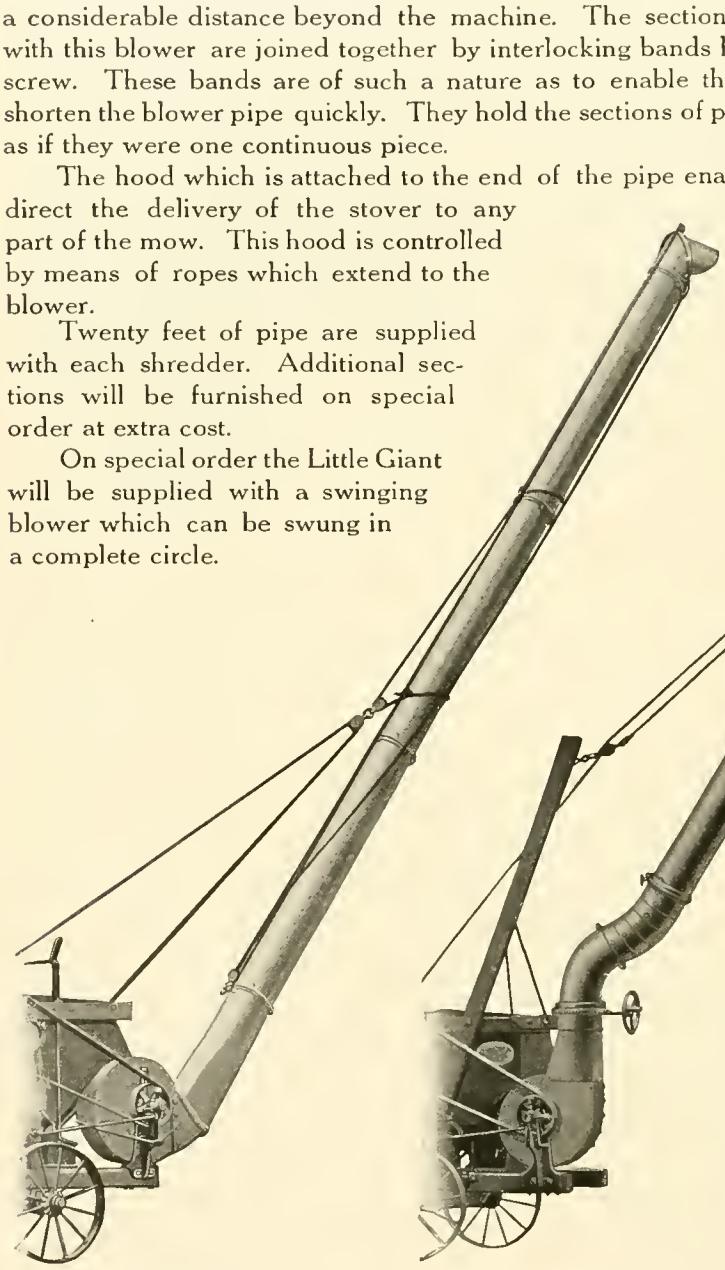
Blower and Blower Pipe

The blower on the Little Giant husker and shredder is a one-piece malleable casting. It is driven from the fly-wheel on the shredder head shaft at a speed sufficiently high to blow the stover a considerable distance beyond the machine. The sections of pipe regularly supplied with this blower are joined together by interlocking bands held in place by a thumb-screw. These bands are of such a nature as to enable the operator to lengthen or shorten the blower pipe quickly. They hold the sections of pipe together as securely as if they were one continuous piece.

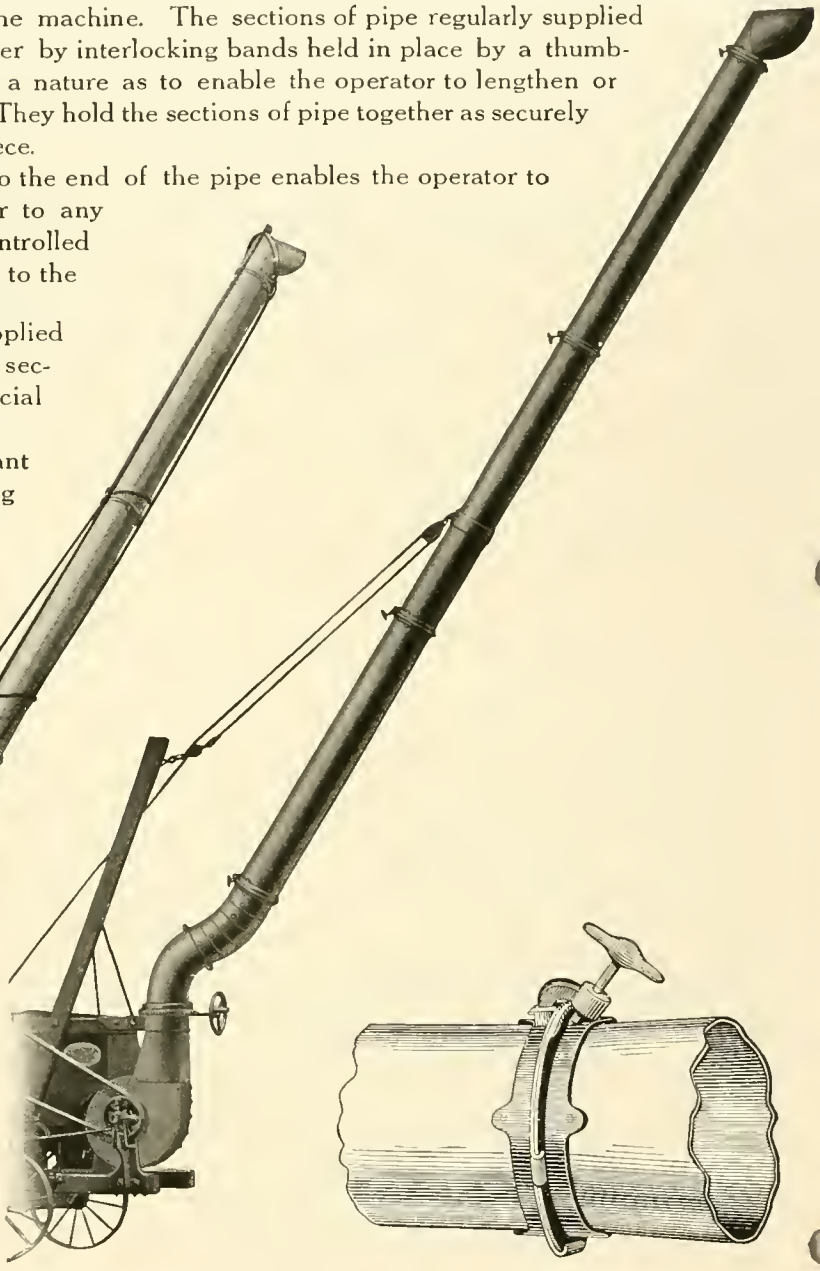
The hood which is attached to the end of the pipe enables the operator to direct the delivery of the stover to any part of the mow. This hood is controlled by means of ropes which extend to the blower.

Twenty feet of pipe are supplied with each shredder. Additional sections will be furnished on special order at extra cost.

On special order the Little Giant will be supplied with a swinging blower which can be swung in a complete circle.



The blower which is regularly furnished with the Little Giant



McCormick Little Giant equipped with swinging blower

The interlocking bands of the blower pipe are held in place by a thumbscrew

McCORMICK

McCormick Corn Pickers Reduce Expense and Eliminate Drudgery

Doing clean husking in an unusually trashy field with a McCormick corn picker

The farmer who raises large fields of corn, and does not use a corn binder but prefers to leave the stalks standing in the field, is often confronted with the difficulty of securing help to harvest his crop. Picking corn by hand is slow, unpleasant work. Farm hands will not do it if other work is to be had. The work of harvesting corn by hand is a last resort unless a premium is paid. The man who uses a McCormick corn picker always has his preference of help, because farm hands would much rather operate a corn picker than harvest the crop by hand.

The McCormick corn picker is a practical, labor-saving machine. It husks one row at a time, the capacity being limited only by the rate at which the horses walk. Under average conditions it will pick and husk from five to seven acres a day.

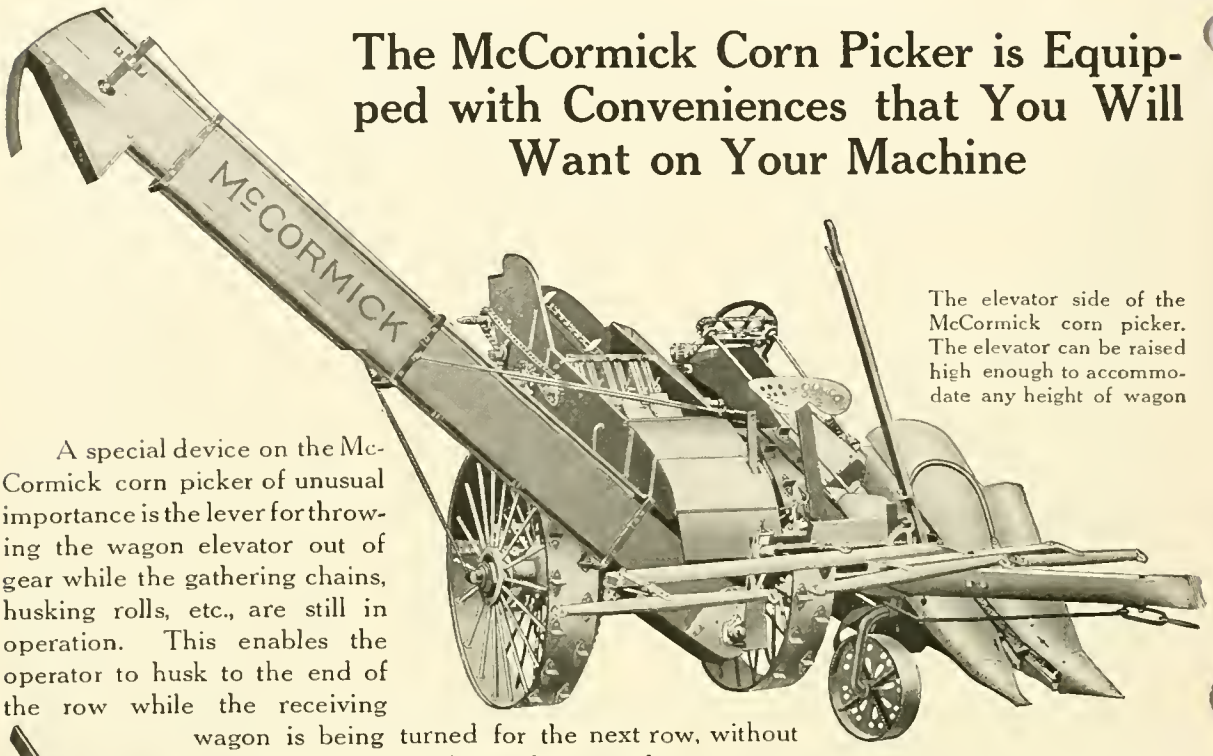
The McCormick corn picker will meet all field conditions successfully. The gathering points are unusually long and sloping. They can be set at an angle, which permits them to pick up down stalks gradually. The sheet iron on the outer edge of each point is in the form of a large curved roll, so that stalks can be drawn over the points without being broken.

There is a convenient lever provided on the McCormick corn picker for raising and lowering the gathering points for different conditions of corn. When corn is straight and standing, it is usually desirable to work with the points some distance from the ground. Where the corn is down and tangled, it is necessary to set the points low so that they will pick up stalks that are crossways of the row.

This machine will not only snap the ears from the stalks that are standing, but it will get the ears on the stalks that are down, tangled, and twisted. It will husk corn much cleaner than it is usually husked by hand.

McCORMICK

The McCormick Corn Picker is Equipped with Conveniences that You Will Want on Your Machine



The elevator side of the McCormick corn picker. The elevator can be raised high enough to accommodate any height of wagon

A special device on the McCormick corn picker of unusual importance is the lever for throwing the wagon elevator out of gear while the gathering chains, husking rolls, etc., are still in operation. This enables the operator to husk to the end of the row while the receiving wagon is being turned for the next row, without allowing ear corn to fall to the ground.

The capacity of the hopper at the lower end of the elevator is great enough to take care of all the corn that is ordinarily husked while the wagon is being turned.

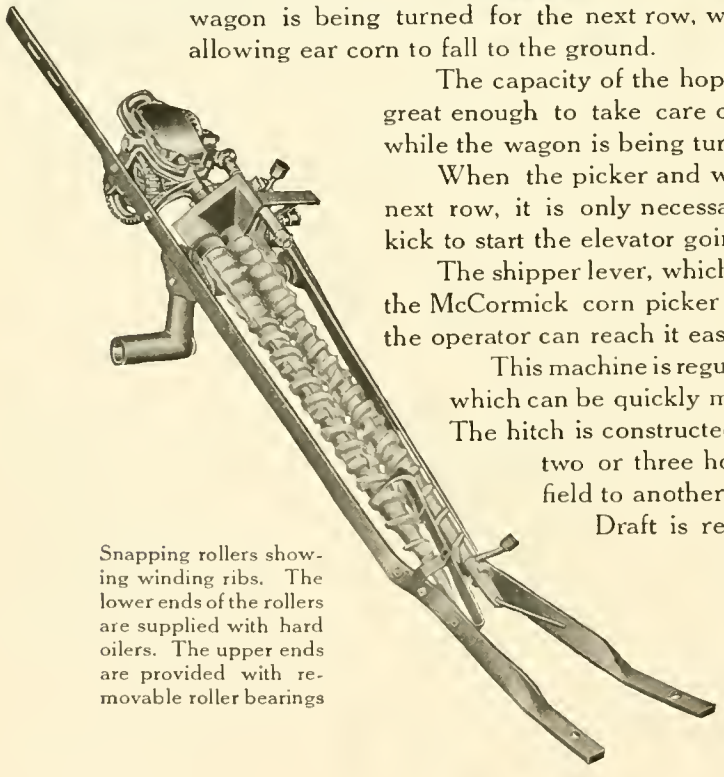
When the picker and wagon are in position to start down the next row, it is only necessary for the operator to give the lever a kick to start the elevator going again.

The shipper lever, which operates the main clutch for throwing the McCormick corn picker in and out of gear, is located where the operator can reach it easily with his foot.

This machine is regularly equipped with a five-horse hitch, which can be quickly made into a four-horse hitch, if desired. The hitch is constructed so that the machine can be drawn by two or three horses when being transported from one field to another.

Draft is reduced by means of rollers and self-aligning bearings, and the proper arrangement of the parts

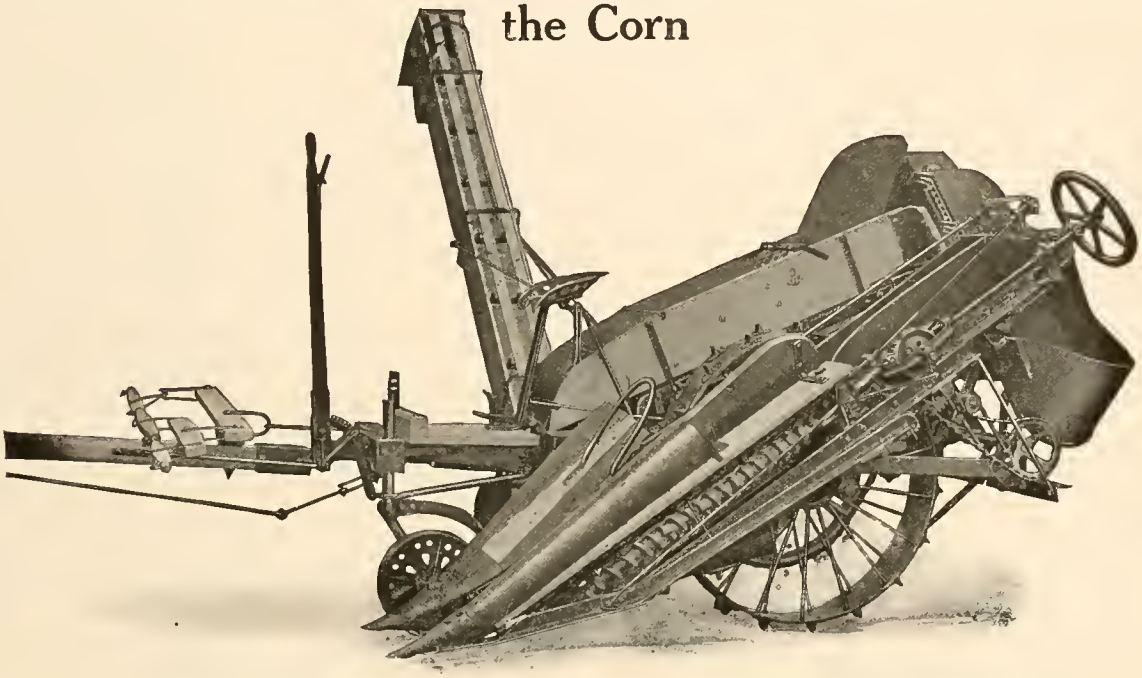
A caster wheel is provided regularly which prevents the tongue from whipping and causes the machine to run steadily over rough ground.



Snapping rollers showing winding ribs. The lower ends of the rollers are supplied with hard oilers. The upper ends are provided with removable roller bearings

McCORMICK

The McCormick Does Clean Husking Without Shelling the Corn



Side view of McCormick corn picker showing construction of gatherers and location of levers

Gathering Chains

Gathering chains with lugs are placed just inside the gathering points to assist in picking up down and tangled corn and to help forward it to the snapping rollers. These chains are provided with efficient tighteners, which have ample latitude for adjustment. No matter how long the machine is used, it is never necessary to remove any of the links to tighten the chain.

The gathering-chain shaft is driven through a safety clutch, which will slip should anything get caught in the gathering chains, thus preventing breakage.

Snapping Rollers

The snapping rollers illustrated on the opposite page have ribs which wind around the rollers. These ribs start at the point and wind toward the top, much in the form of a corkscrew. The ribs on the different rollers run in opposite directions, and the rollers are assembled so that the rib of one roller will run in the groove of the other. The ribs have cam-shaped enlargements at regular intervals which work in conjunction with similar enlargements in the grooves of the opposite roller. The function of these enlargements is to snap the ears from the stalks with a gradually increasing pressure. This avoids shelling corn from the butt of the ear.

The winding ribs work the stalks through the rollers rapidly. There is never any danger of clogging at this point.

A short distance from the upper ends, the ribs start to run straight around the rollers. This prevents the stalks from being forced against the bearings.

Snapping Rollers—Continued

The space between the rollers can be changed by means of an adjustment on the outer roller. This is an important feature, because when the corn is green and tough, it is necessary to run the rollers close together, but when it is dry and crisp, the tension may be relieved and the rollers set farther apart.

The frame which holds the outer snapping roller is sufficiently rigid for the work it has to do, yet it will yield to permit the rollers to spread apart in case an obstruction should get between them.

The snapping rollers are placed on the machine at an angle, which permits the snapped ears to gravitate to the ear corn elevator which carries them to the husking rolls.

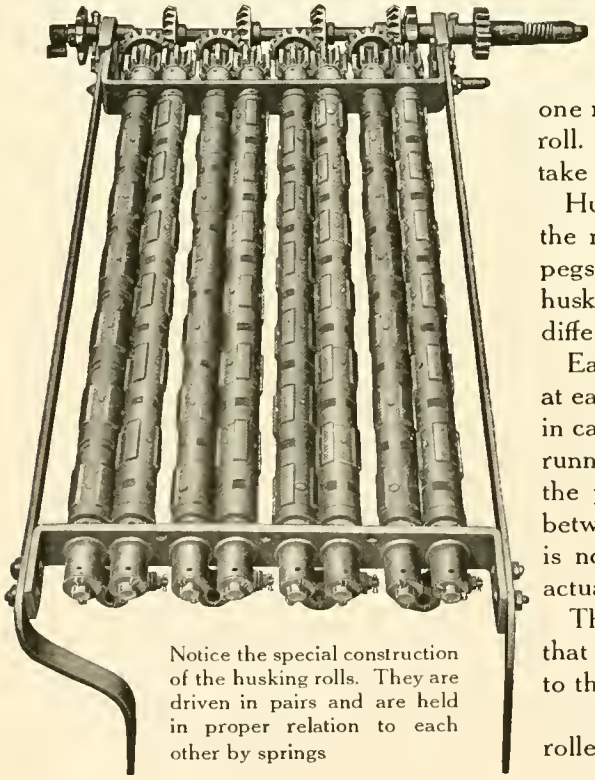
Trash Rolls

When working in down and lodged corn, some stalks are sure to be broken off by the snapping rollers and carried to the elevator. These stalks would choke the machine and cause breakage if they were not carried away immediately. To prevent this, trash rolls are furnished on the McCormick corn picker. These rolls, which are located at the upper end of the elevator, snap off the ears and carry the stalks out at the rear of the machine. The ears are carried to the husking rolls.

The trash rolls are driven from a balance-wheel shaft through a pair of strong bevel gears, one of which is part of a safety clutch which prevents breakage should the trash rolls become clogged.

Husking Rolls

The McCormick corn picker has eight husking rolls which operate in pairs. The surface of these rolls is made up of alternating sections of ribs and cylinders. Each section consists of four ribs, each one three inches long, running lengthwise of the roll, and four plain cylinders or spaces of corresponding size. In operation the rib section of one roll runs in the cylinder section of the companion roll. This construction makes it possible for the rolls to take a stronger grasp on the husks.



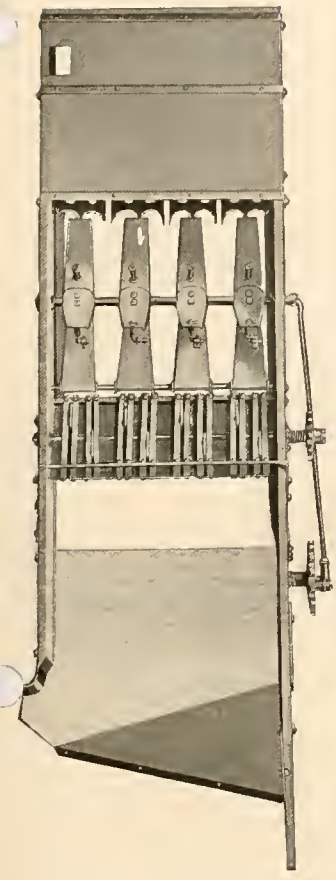
Notice the special construction of the husking rolls. They are driven in pairs and are held in proper relation to each other by springs

Husking pegs are screwed into the cylinders between the ribs of the rolls, to assist in clean husking. These pegs are especially valuable for work in dry corn, where husking is difficult. They are made in two lengths with different shaped heads, and can be replaced when worn.

Each pair of husking rolls is equipped with springs at each end, which give sufficiently to prevent breakage in case a hard substance gets between the rolls. When running idle the husking rolls just come together, and the pressure of the springs is exerted on the yokes between the rolls instead of on the bearings. There is no pressure on the rolls until they spring apart in actual work.

The rolls are placed in the machine at an inclination that will permit the ears after being husked to gravitate to the wagon elevator.

The husking rolls are provided at each end with roller bearings.



View from above showing agitator and ear pressers

Agitators and Ear Pressers

The ear corn is delivered to the husking rolls from the snapping rollers in almost every conceivable shape. Clean husking demands that some means be provided for starting these ears lengthwise down the husking rolls. This is accomplished by agitators, which are placed just above and between each pair of rolls. These agitators are in the shape of an inverted "T" and are provided with saw-tooth shaped edges. They work back and forth parallel to the husking rolls and assist in moving the ears at the proper speed for clean husking.

Agitator fingers are placed over each pair of rolls, to keep the ears from piling up. If it were not for these fingers, some of the ears would go through the machine without being husked. These fingers revolve with the under side traveling toward the upper end of the husking rolls and force back any ears that have a tendency to ride by on other ears.

Retarders are also provided to prevent the ears from slipping over the husking rolls too rapidly, leaving some of the ears unhusked. These ear retarders are located at the lower end of the husking rolls, and give the ears a slight pressure on the rolls just before the corn is deposited in the wagon elevator.

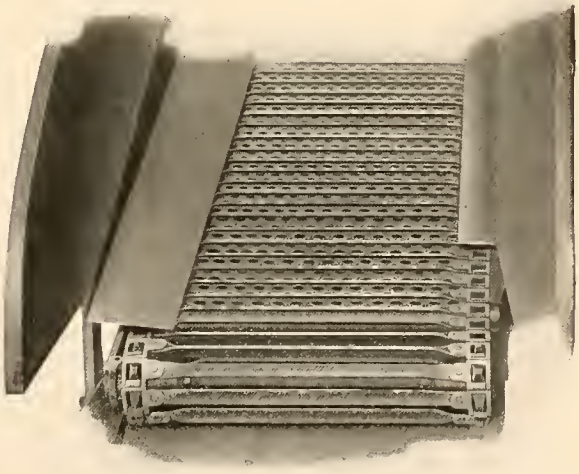
The agitator shaft is driven through a safety clutch, which prevents breakage should the fingers get caught.

Efficient Cleaner Chain

The function of the cleaner chain is to deliver to the ground the husks that are torn from the ears by the husking rolls. This chain is constructed of metallic slats, so placed that in case corn is shelled by the husking rolls it falls between the slats to the perforated bottom. The holes in the metallic bottom are of sufficient size to allow dirt and seeds from weeds to drop through, and yet are not large enough to permit shelled corn to fall to the ground.

The cleaner chain is in the form of an endless apron, and as the under side travels toward the front of the machine, the metallic slats scrape the shelled corn into the wagon elevator.

The cleaner is provided with a wind shield at the rear to prevent the wind from holding the husks under the husking rolls.



Cleaner chain, front view, showing perforated bottom

Powerful Driving Mechanism

The driving mechanism on the McCormick corn picker is extremely simple and powerful Every principle of mechanics which reduces friction and draft have been incorporated in this machine.

Power to drive all mechanism is transmitted by two large steel drive wheels to the main countershaft by means of two heavy chains.

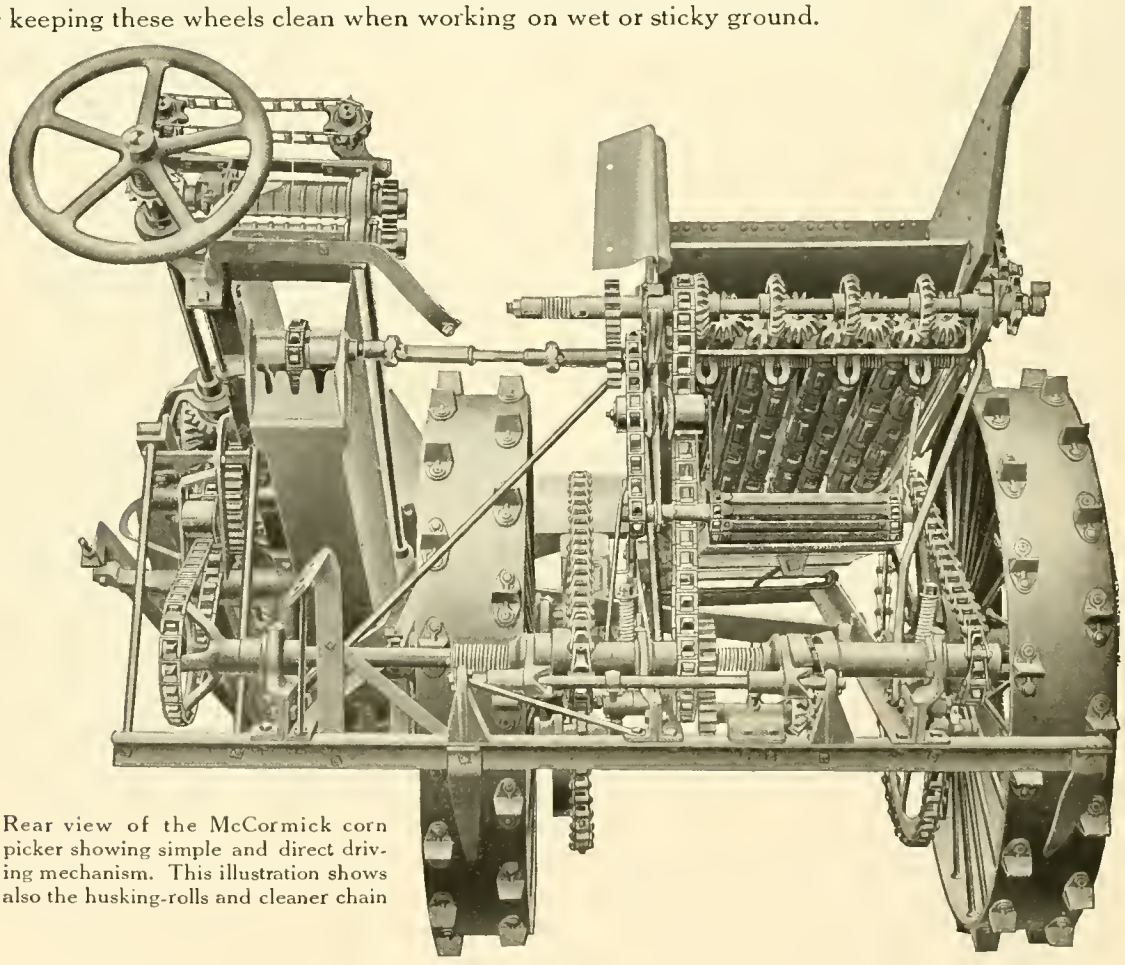
The husking-roll countershaft is driven directly from the main countershaft by a chain. Each set of husking rolls is driven from the husking-roll countershaft by bevel gears and pinions.

The snapping rolls are driven from the main countershaft by a chain, bevel gears and pinions. The gears are shielded to prevent the operator from becoming injured. The self-aligning knuckle joint in the snapping roller gear shaft keeps the gears in perfect alignment, reduces friction and wear, and avoids cramping the bearings.

The elevator which carries the ears from the snapping rollers to the husking rolls is driven from the husking-roll countershaft by a knuckle-joint countershaft and spur gears.

All the mechanism on the McCormick corn picker is rigidly supported by a well-braced angle iron main frame, trussed at the points where the greatest strain comes.

Good traction is insured by large, wide-faced drive wheels, well lugged. Scrapers are provided for keeping these wheels clean when working on wet or sticky ground.



Rear view of the McCormick corn picker showing simple and direct driving mechanism. This illustration shows also the husking-rolls and cleaner chain

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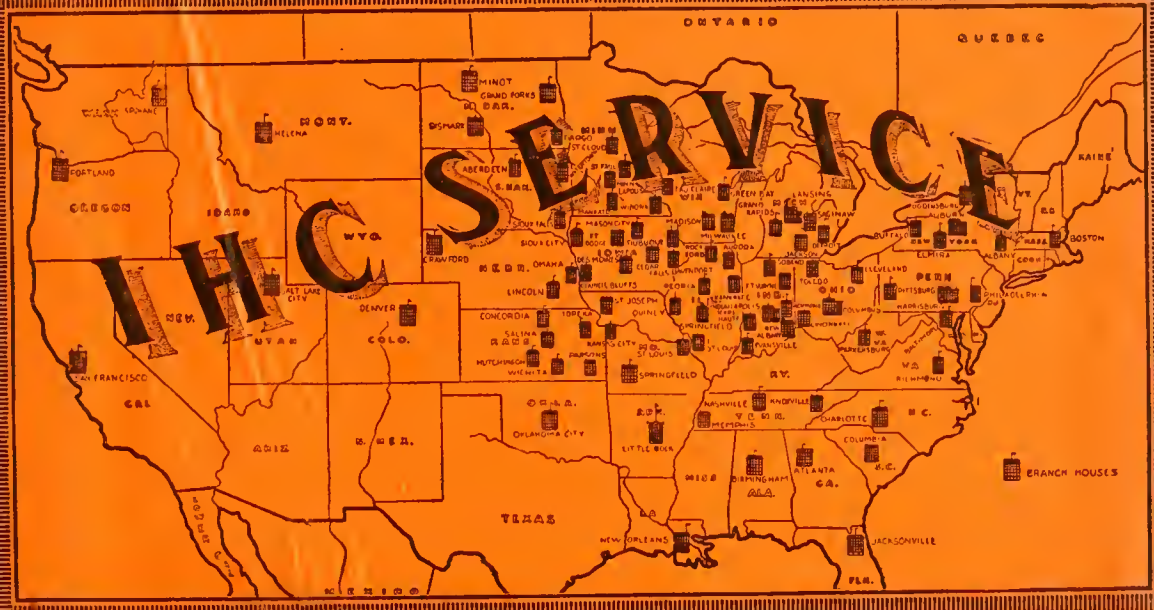

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